BRADLEY HEIGHTS
TRAFFIC IMPACT ANALYSIS

PUYALLUP, WA

8/24/2022

Prepared for: Mr. Dave Enslow
Bradley Heights SS LLC
1816 11th Avenue, Unit C
Seattle, WA 98122

August 2022

August 24, 2022

Bryan Roberts, P.E.
City of Puyallup

Subject: Revisions to Bradley Heights Traffic Impact Analysis

This letter is in response to the Bradley Heights Traffic Impact Analysis review, with comments dated August 11, 2022.

1. The annual growth rate has been changed from two percent to three percent. All figures and level of service calculations have been adjusted accordingly. The 52 units was provided and used in the scoping and TIA. This number can be adjusted should it differ from the actual existing number of units.

2. The unit count for the proposed development has not changed due to the development proposing 233 units which is less than 248 units which is called out in the report. The analysis is considered conservative.

   Please call if you require anything further.

   Sincerely,

   Aaron Van Aken, P.E., PTOE

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TRAFFIC IMPACT ANALYSIS

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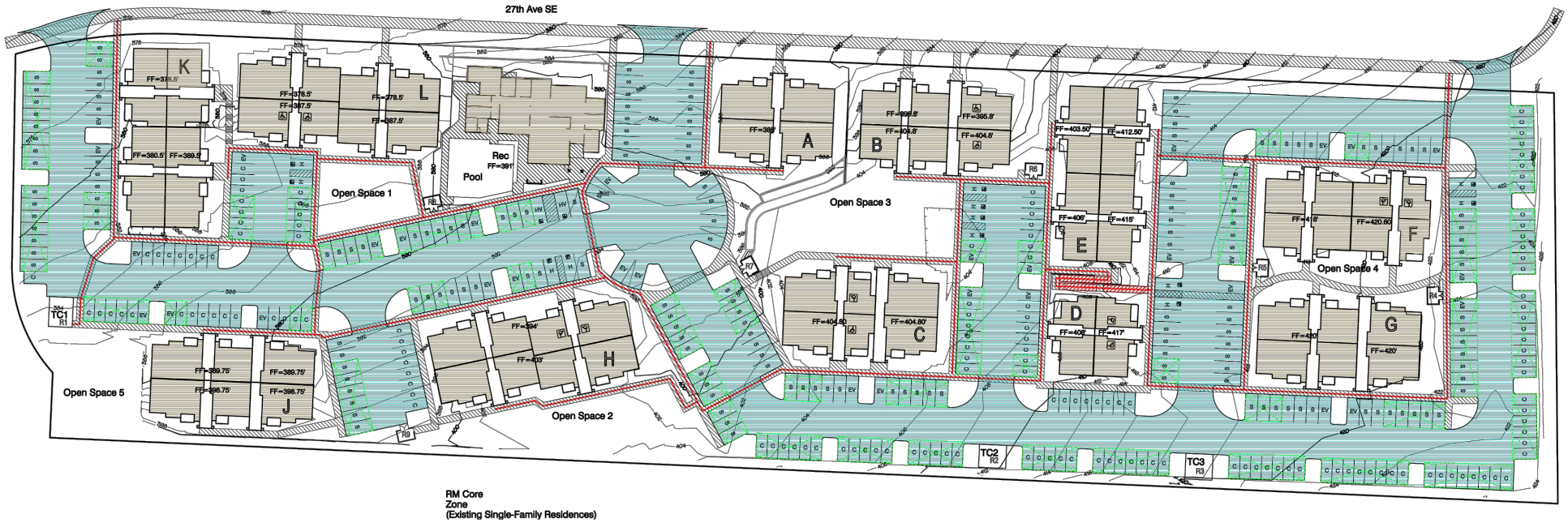
1. INTRODUCTION

The main goals of this study focus on the assessment of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent streets serving the subject site and gathering existing vehicular volumes within a defined study area. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined, if needed.

2. PROJECT DESCRIPTION

Bradley Heights is a proposed residential development encompassing up to 248 multi-family dwelling units in the city of Puyallup. The subject site, with a site address of 202 27th Avenue SE, is located within 7.78-acre tax parcel #: 0419036006. Currently existing on-site is a mobile home park encompassing 52 dwelling units. Access to the subject site is proposed via three driveways, all extending south from 27th Avenue SE. The primary, centrally located access is to be aligned opposite the westerly Sunset Garden Senior Living Apartment's driveway. The other two driveways will be used for emergency vehicles only. Figure 1 below shows the vicinity map and adjacent street system. A conceptual site plan illustrating the proposed site layout is presented in Figure 2.

Figure 1: Aerial Vicinity



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BRADLEY HEIGHTS

SITE PLAN
FIGURE 2

3. EXISTING CONDITIONS

3.1 Surrounding Roadways

The major roadways surrounding the subject site are listed and described below.

S Meridian: is a north-south, 4-6-lane major arterial located west of the subject site. Two travel lanes in either direction and a center two-way left-turn lane are provided in the vicinity of the subject site. Travel lanes are approximately 10- to 11-feet in width. Crosswalks and turn-lanes are provided at major intersections. Curb, gutter and sidewalk are generally provided along the either side of the roadway. The posted speed limit is 35-mph.

27th Avenue SE: is an east west, 2-3 lane local roadway bordering the subject site to the north. One travel lane in either direction and a center two-way left-turn lane are provided along the project frontage. Travel lanes are approximately 10- to 12-feet in width. Curb, gutter and sidewalk are provided along the north side of the roadway in the subject site vicinity. Shoulders are generally untreated along the south side of the roadway. The posted speed limit is 25-mph.

3.2 Transit Service

According to the Pierce Transit regional bus schedule, Routes 402 and 425 provide service within walking distance of the proposed Bradley Heights development. Route 402—Meridian— provides service from Meridian E & 171st Street Court E to the Federal Way Transit Center. The nearest stop for Route 402 is located approximately 0.20-miles southwest of the proposed development at the intersection of S Meridian & 28th Avenue SE. Weekday service is provided from 5:00 AM – 8:46 PM with approximately 60-minute headways. Saturday service is provided from 7:10 AM – 8:35 PM with approximately 60-minute headways. Sunday service is provided from 9:41 AM – 7:26 PM with approximately 60-minute headways. Route 425—Puyallup Connector— provides service from the South Hill P&R to the Puyallup Station. The nearest stop for Route 425 in relation to the subject site is located across from the proposed development in the Sunset Garden Senior Living Apartments parking lot. Weekday service is provided from 11:19 AM – 5:18 PM with approximately 60-minute headways. Saturday service is provided from 9:15 AM – 6:27 PM with approximately 120-minute headways.

Transit use stemming from the proposed development is anticipated given the service proximity and availability. For further details and information, refer to the Pierce County Transit schedule.

3.3 Roadway Improvements

The current City of Puyallup Six-Year (2020-2025) Transportation Improvement Program was reviewed in order to determine if any projects are planned in the vicinity of the Bradley Heights development. Table 1 provides project descriptions of proposed improvements in the subject site vicinity.

Table 1: Transportation Improvement Projects

Name	Location	Improvement	Cost
Bike Facility Improvements (P.N.: 2017-015)	5th St SE/7th St SE; 23rd Ave SE to 43rd Ave SE	Add a shared use path on one side of the roadway	$7,000,000
9th Street SW (P.N.: 2016-062)	15th Ave SW to 31st Ave SW	3 lanes with curb, gutter, sidewalk, bike lane and street lighting on both sides of roadway. Add capacity at 9th St SW & 15th Ave SW	$700,000
37th Ave SE & S Meridian (P.N.: 2016-073)	Intersection	Intersection improvements; concrete approaches	$1,000,000
23rd Ave SE (P.N.: 2014-014)	S Meridian to 9th St SE	3 lanes with curb, gutter, sidewalk and street lighting and a new signal at the intersection of 23rd Ave SE & 7th St SE	$7,800,000
Adaptive on 5th St. SE (P.N.: 23)	Intersections on corridor	Install adaptive signals at: 23rd, 31st, 35th, 37th, 39th, 43rd (6 signals)	$1,000,000
39th/37th Ave SE (P.N.: 2016-072)	10th St SE to 5th St SE	Overlay roadway and striping; Update from Meridian to 10th St SE	$2,200,000
7th St SE (P.N.: 2016-055 and -056)	23rd Ave SE to 12th Ave SE	3 lanes with curb, gutter, sidewalk, and street lighting on both sides and bike lanes	$26,000,000

3.4 Non-Motorist Infrastructure

Presently, sidewalk is available along the north side of 27th Avenue SE and along both sides of S Meridian and 7th Street SE. The surrounding roadways provide crosswalks at major intersections, allowing safe pedestrian crossings. Continuous sidewalk infrastructure is provided between the proposed subject site and public transit opportunities as well as commercial opportunities to the south and north along S Meridian. Moreover, Bradley Lake Park is located approximately 0.4-miles walking distance southeast of the subject site, providing recreational opportunities to future Bradley Heights residents.

3.5 Peak Hour Volumes

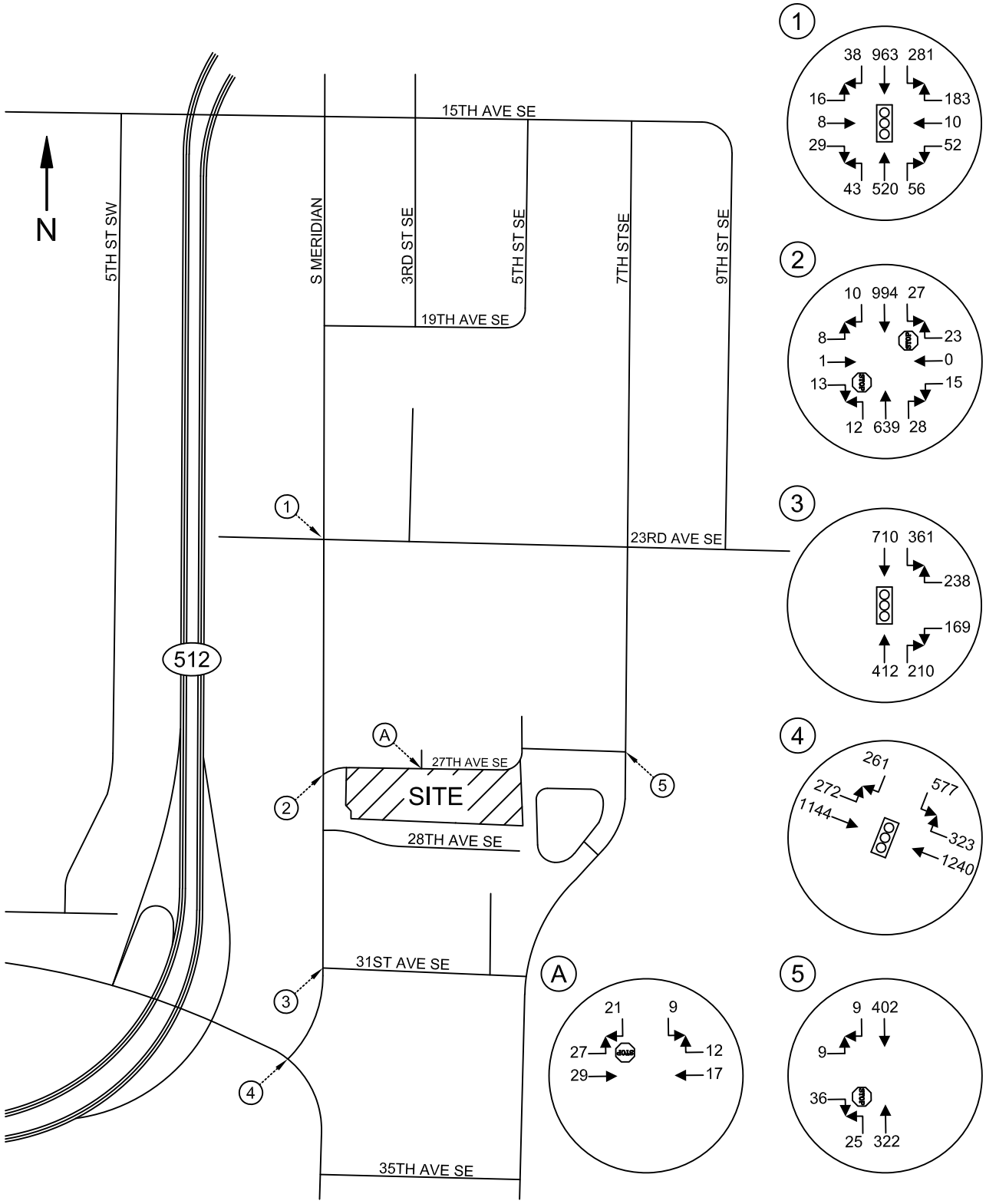
Field data for this study was collected in November of 2021. Counts were administered during the PM period of 4:00 – 6:00 PM. The one hour exhibiting the highest overall volumes from the field counts (peak hour) is then used for capacity and delay analysis. Field counts were taken at the following intersections, as directed by the City.

- S Meridian & 23rd Ave SE
- S Meridian & 27th Ave SE
- 7th Street SE & 27th Ave SE
- S Meridian & 31st Ave SE
- Meridian Ave E/31st Ave SE & S Meridian

It should be noted that the primary project access for the proposed Bradley Heights development is to be aligned opposite an existing westerly Sunset Garden Senior Living Apartment's driveway. Therefore, trips associated with the Senior Living Apartments were derived from the Institute of Transportation Engineer's (ITE) publication *Trip Generation,* 11th Edition. Land Use Code (LUC 252) was defined as the facility's use. All trips were assigned to a single access from the Sunset Garden Senior Living Apartments driveway opposite the proposed primary Bradley Heights access to present conservative analysis. Figure 3 illustrates existing PM peak hour volumes at the intersections of study. Refer to the appendix for full count sheets.

3.6 Sight Distance at Access Driveway

Primary access to the subject site is proposed via one new driveway extending south from 27th Avenue SE, aligned opposite an existing westerly Sunset Garden Senior Living Apartment's driveway. Two additional driveways are proposed to extend south from 27th Avenue SE serving as emergency vehicle access only. Assessments of the primary proposed 27th Avenue SE access were made to determine whether or not adequate entering sight distance (ESD) can be provided for project traffic. Based on the 25-mph posted speed limit on 27th Avenue SE, 280 feet would be required assuming a full movement access. Based on preliminary measurements, sight lines exceed 350 feet in either direction. No sight distance deficiencies are identified based on the development proposal.



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EXISTING PM PEAK HOUR VOLUMES
FIGURE 3

4. FUTURE TRAFFIC CONDITIONS

4.1 Trip Generation

Trip generation is defined as the number of vehicle movements that enter or exit a site during a designated time period such as a specific peak hour or an entire day. Data presented in this analysis was derived from the Institute of Transportation Engineer's (ITE) publication *Trip Generation,* 11th Edition. The existing land use is defined as Mobile Home Park (LUC 240). The proposed land use is to be defined as Multi-Family Housing – Low-Rise (LUC 220). ITE average rates were used to determine trip ends with dwelling units used as the input variable. Table 2 below summarizes anticipated vehicular movements for the average weekday daily trips (AWDT), AM peak hour and PM peak hour. ITE trip generation sheets have been attached to the appendix for reference.

Table 2: Project Trip Generation

Land Use	Dwelling Units	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Existing: Mobile Home Park	52	-370	-4	-16	**-20**	-19	-11	**-30**
Proposed: Multi-Family Housing	248	1672	24	75	**99**	79	47	**126**
Net New Trips		1302	20	59	**79**	60	36	**96**

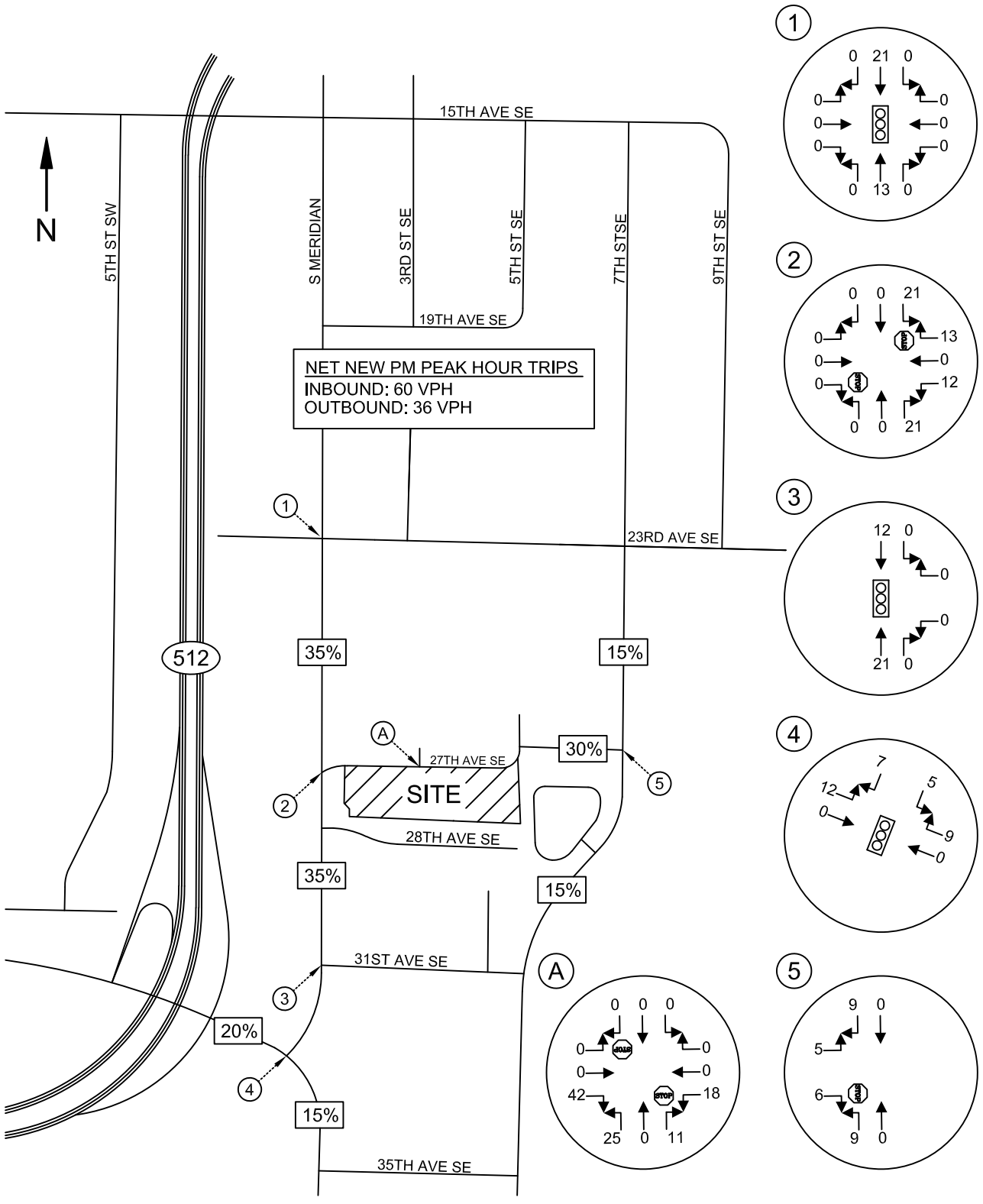
Based on the data presented in Table 2, the project is anticipated to generate 1302 net new average weekday trips with 79 net new trips (20 in/59 out) occurring during the AM peak hour and 96 net new trips (60 in/36 out) occurring during the PM peak hour.

4.2 Distribution & Assignment

Trip distribution describes the process by which project generated trips are dispersed on the roadway network surrounding the site. Trip distribution percentages were established during the scoping process with the City. PM Peak hour trip distribution and assignment is provided in Figure 4 on the following page.

4.3 Peak Hour Volumes

The three-year horizon of 2025 was used for future analysis. Future 2025 traffic volumes without the project were derived by applying a 2.0 percent annual growth rate to existing traffic volumes shown in Figure 3. Future 2025 volumes without project traffic are illustrated in Figure 5. Figure 6 illustrates forecast 2025 PM peak hour volumes with project-generated traffic.



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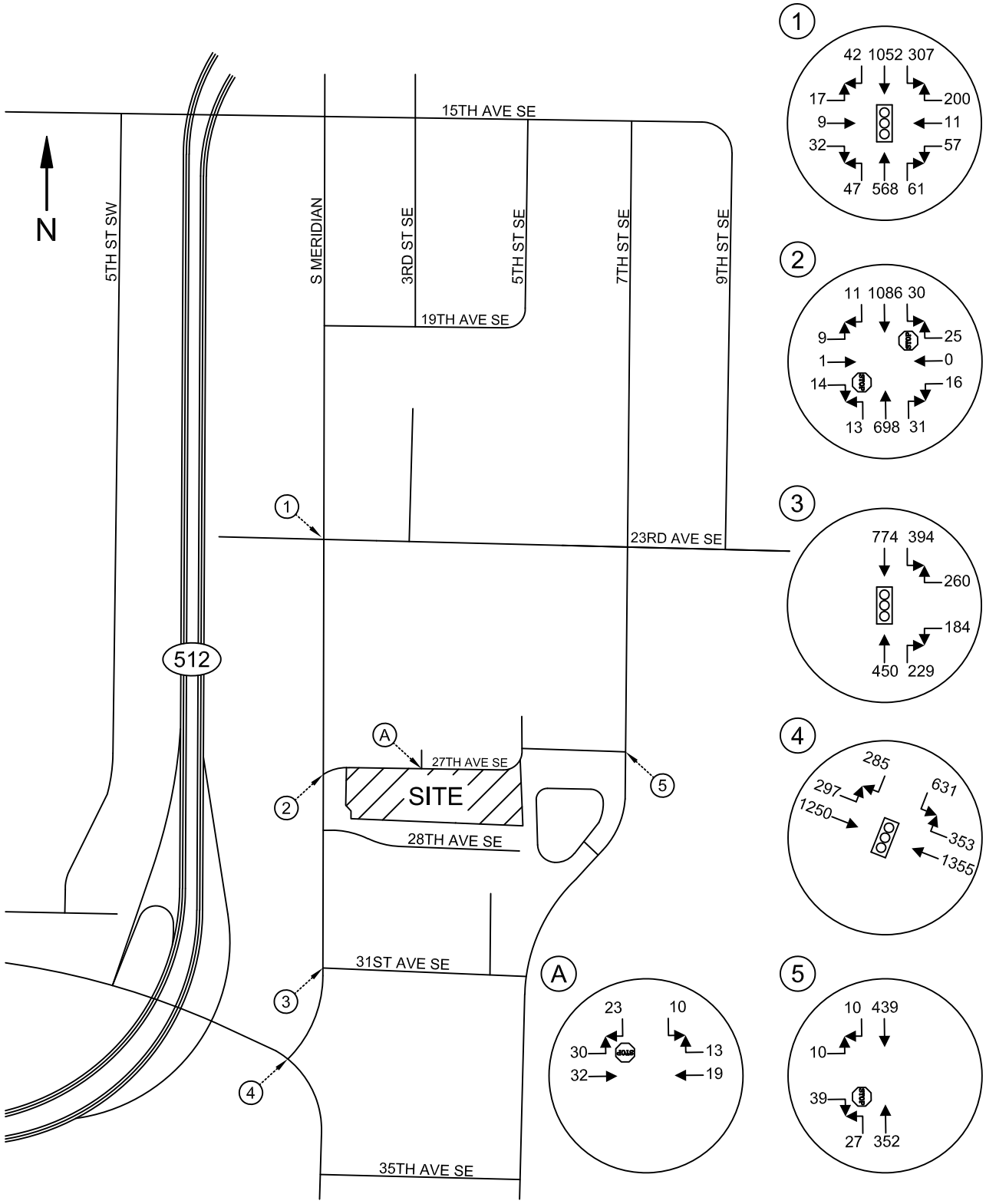
PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 4



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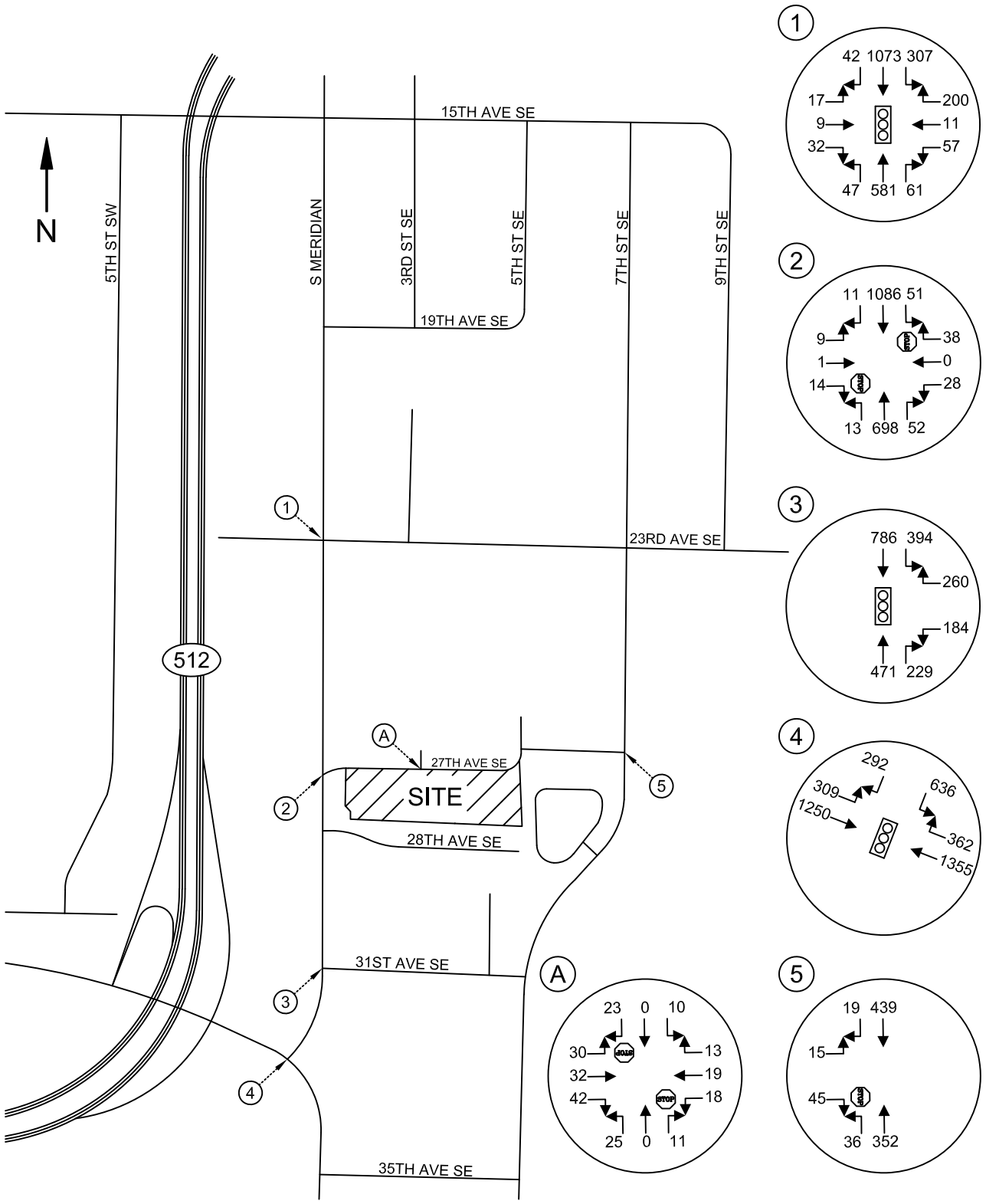
FORECAST 2025 PM PEAK HOUR VOLUMES WITHOUT PROJECT
FIGURE 5



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FORECAST 2025 PM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 6

4.4 Level of Service

Existing and forecast 2025 peak hour delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range[1] for intersection level of service is LOS A to LOS F ranging from low control delays to heavy control delays. Level of service calculations derived from *Synchro 11.* For signalized intersections, LOS is determined by the intersection's overall average delay. For side-street stop-controlled intersections, LOS is determined by the approach with the highest delay. Summarized in Table 3 below are LOS conditions for existing and forecast 2025 conditions.

Table 3: Existing & Forecast 2025 PM Peak Hour Level of Service

Delays given in seconds per vehicle

		Existing		*2025 Without*		*2025 With*	
Intersection	**Control**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
S Meridian & 23rd Ave SE	Signal	B	11.3	B	11.8	B	11.9
S Meridian & 27th Ave SE	Stop	C	18.9	C	21.2	C	22.2
S Meridian & 31st Ave SE	Signal	A	9.4	B	10.9	B	11.2
S Meridian & Meridian Ave E/31st Ave SW	Signal	C	29.4	C	33.5	C	34.0
7th St SE & 27th Ave SE	Stop	B	11.6	B	12.1	B	12.4
7th Ave SE & Driveway/Project Access	Stop	A	8.8	A	8.9	A	9.8

[1] *Signalized Intersections - Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤20
C	> 20 and ≤35
D	> 35 and ≤55
E	> 55 and ≤80
F	> 80

Stop Controlled Intersections – Level of Service

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤15
C	> 15 and ≤25
D	> 25 and ≤35
E	> 35 and ≤50
F	> 50

Highway Capacity Manual, 6th Edition

The City of Puyallup has adopted LOS D standards for most city intersections. The proposed access and outlying study intersections are shown to continue to meet City LOS standards based on forecast 2025 PM peak hour analysis. Operating with LOS C or better conditions, no operational deficiencies are identified at the study and access intersections as a result of the proposed development.

5. SUMMARY & MITIGATION

The Bradley Heights project proposes to construct a residential development comprising up to 248 apartment units in the city of Puyallup. The subject site is bordered to the north by 27th Avenue SE and located east of S Meridian on 7.78-acres (tax parcel #: 0419036006). Access to the subject site is proposed via one full- turning movement driveway extending north from 27th Avenue SE, opposite an existing driveway serving the Sunset Garden Senior Living Apartments. According to ITE data, site development would generate an estimated 1302 total net new daily trips with 79 net new trips occurring during the AM peak hour (20 inbound / 59 outbound) and 96 net new trips during the PM peak hour (60 inbound / 36 outbound).

A level of service (LOS) analysis was performed using a three-year horizon, which included a background growth rate. Existing and forecast 2025 PM peak hour delays at the study intersections and access are shown to meet City LOS D standards, operating with LOS C or better conditions. Overall, no significant impact to the surrounding roadway system is identified with the development proposal.

Proposed mitigation for the project is as follows:

1. Pay traffic impact fees as required by Puyallup. Final fees will be calculated and assessed by the City at the time of building permit issuance.

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APPENDIX

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PO Box 397
Puyallup, WA 98371

File Name : 4775e
Site Code : 00004775
Start Date : 11/10/2021
Page No : 1

Groups Printed- Passenger + - Heavy

	S Meridian Southbound				23rd Ave SE Westbound				S Meridian Northbound				23rd Ave SW Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	8	223	95	326	64	2	11	77	13	127	6	146	5	2	4	11	560
04:15 PM	2	212	62	276	37	6	10	53	21	123	7	151	5	4	2	11	491
04:30 PM	8	227	57	292	47	1	15	63	17	120	14	151	3	3	3	9	515
04:45 PM	17	283	79	379	51	3	13	67	14	123	8	145	9	4	7	20	611
Total	35	945	293	1273	199	12	49	260	65	493	35	593	22	13	16	51	2177
05:00 PM	6	205	63	274	46	4	13	63	11	144	8	163	7	1	4	12	512
05:15 PM	7	248	82	337	39	2	11	52	14	133	13	160	10	0	2	12	561
05:30 PM	8	193	56	257	36	4	11	51	19	126	9	154	8	1	5	14	476
05:45 PM	15	172	54	241	42	4	12	58	11	107	5	123	6	0	5	11	433
Total	36	818	255	1109	163	14	47	224	55	510	35	600	31	2	16	49	1982
Grand Total	71	1763	548	2382	362	26	96	484	120	1003	70	1193	53	15	32	100	4159
Apprch %	3	74	23		74.8	5.4	19.8		10.1	84.1	5.9		53	15	32		
Total %	1.7	42.4	13.2	57.3	8.7	0.6	2.3	11.6	2.9	24.1	1.7	28.7	1.3	0.4	0.8	2.4	
Passenger +	70	1746	542	2358	355	26	91	472	114	991	70	1175	53	15	32	100	4105
% Passenger +	98.6	99	98.9	99	98.1	100	94.8	97.5	95	98.8	100	98.5	100	100	100	100	98.7
Heavy	1	17	6	24	7	0	5	12	6	12	0	18	0	0	0	0	54
% Heavy	1.4	1	1.1	1	1.9	0	5.2	2.5	5	1.2	0	1.5	0	0	0	0	1.3

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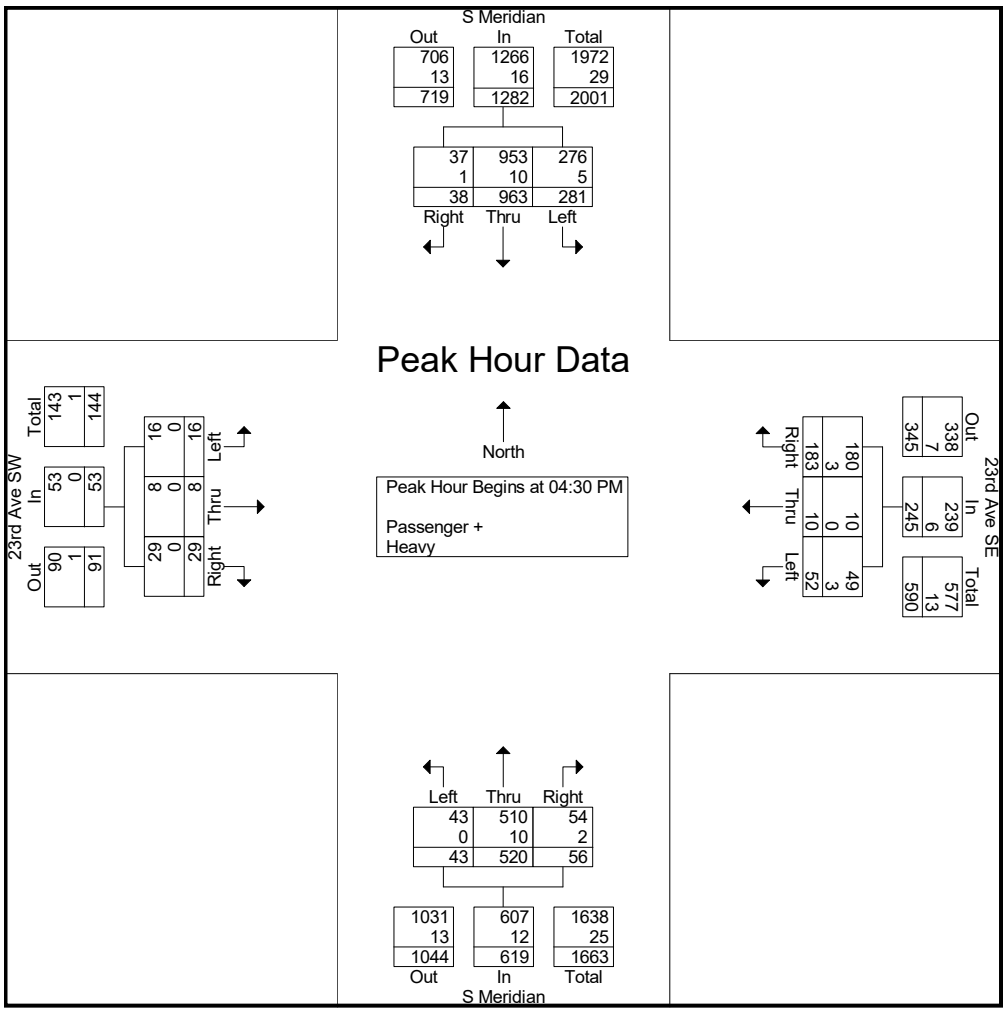
Puyallup, WA 98371

File Name : 4775e
Site Code : 00004775
Start Date : 11/10/2021
Page No : 2

	S Meridian Southbound				23rd Ave SE Westbound				S Meridian Northbound				23rd Ave SW Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	8	227	57	292	47	1	15	63	17	120	14	151	3	3	3	9	515
04:45 PM	17	283	79	379	51	3	13	67	14	123	8	145	9	4	7	20	611
05:00 PM	6	205	63	274	46	4	13	63	11	144	8	163	7	1	4	12	512
05:15 PM	7	248	82	337	39	2	11	52	14	133	13	160	10	0	2	12	561
Total Volume	38	963	281	1282	183	10	52	245	56	520	43	619	29	8	16	53	2199
% App. Total	3	75.1	21.9		74.7	4.1	21.2		9	84	6.9		54.7	15.1	30.2		
PHF	.559	.851	.857	.846	.897	.625	.867	.914	.824	.903	.768	.949	.725	.500	.571	.663	.900
Passenger +	37	953	276	1266	180	10	49	239	54	510	43	607	29	8	16	53	2165
% Passenger +	97.4	99.0	98.2	98.8	98.4	100	94.2	97.6	96.4	98.1	100	98.1	100	100	100	100	98.5
Heavy	1	10	5	16	3	0	3	6	2	10	0	12	0	0	0	0	34
% Heavy	2.6	1.0	1.8	1.2	1.6	0	5.8	2.4	3.6	1.9	0	1.9	0	0	0	0	1.5



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PO Box 397
Puyallup, WA 98371

File Name : 4775a
Site Code : 00004775
Start Date : 11/10/2021
Page No : 1

Groups Printed- Passenger + - Heavy

	S Meridian Southbound				27th Ave SE Westbound				S Meridian Northbound				Apartment Driveway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
06:00 AM	0	46	2	48	5	0	2	7	2	110	0	112	3	0	3	6	173
06:15 AM	1	59	2	62	1	0	1	2	1	139	0	140	0	0	1	1	205
06:30 AM	0	79	2	81	3	0	3	6	4	145	0	149	1	0	1	2	238
06:45 AM	1	71	1	73	3	0	2	5	1	162	1	164	1	0	0	1	243
Total	2	255	7	264	12	0	8	20	8	556	1	565	5	0	5	10	859
07:00 AM	2	80	1	83	5	0	4	9	9	179	0	188	1	0	1	2	282
07:15 AM	3	96	1	100	1	0	3	4	6	158	4	168	3	0	3	6	278
07:30 AM	2	114	1	117	3	0	3	6	3	154	2	159	0	0	3	3	285
07:45 AM	6	93	3	102	6	0	6	12	7	171	4	182	1	1	2	4	300
Total	13	383	6	402	15	0	16	31	25	662	10	697	5	1	9	15	1145
08:00 AM	1	114	5	120	4	0	2	6	6	144	1	151	3	1	0	4	281
08:15 AM	1	127	2	130	3	0	2	5	5	133	3	141	6	0	3	9	285
08:30 AM	1	131	6	138	7	0	2	9	3	124	4	131	2	2	3	7	285
08:45 AM	5	129	6	140	7	0	3	10	8	138	3	149	3	0	0	3	302
Total	8	501	19	528	21	0	9	30	22	539	11	572	14	3	6	23	1153
09:00 AM	4	166	5	175	4	0	3	7	4	113	4	121	2	1	4	7	310
09:15 AM	2	154	4	160	6	1	4	11	8	144	1	153	3	0	3	6	330
09:30 AM	2	154	5	161	8	0	7	15	3	129	1	133	4	0	3	7	316
09:45 AM	1	162	9	172	8	0	10	18	6	159	3	168	4	0	0	4	362
Total	9	636	23	668	26	1	24	51	21	545	9	575	13	1	10	24	1318
10:00 AM	1	202	2	205	7	0	5	12	6	138	2	146	2	0	1	3	366
10:15 AM	3	155	5	163	6	0	6	12	7	132	2	141	5	1	1	7	323
10:30 AM	4	193	5	202	11	0	5	16	4	131	3	138	1	0	3	4	360
10:45 AM	4	168	4	176	5	0	5	10	6	145	0	151	2	1	3	6	343
Total	12	718	16	746	29	0	21	50	23	546	7	576	10	2	8	20	1392
11:00 AM	2	184	2	188	5	0	4	9	10	161	0	171	4	0	1	5	373
11:15 AM	2	180	6	188	5	0	7	12	7	143	5	155	3	0	6	9	364
11:30 AM	3	192	5	200	8	0	4	12	6	140	0	146	1	1	1	3	361
11:45 AM	0	195	7	202	8	0	4	12	5	154	4	163	3	0	3	6	383
Total	7	751	20	778	26	0	19	45	28	598	9	635	11	1	11	23	1481
12:00 PM	0	211	9	220	9	0	8	17	4	155	2	161	6	0	2	8	406
12:15 PM	0	183	9	192	13	0	3	16	7	136	2	145	1	0	0	1	354
12:30 PM	2	187	5	194	12	1	3	16	2	163	1	166	5	0	2	7	383
12:45 PM	3	179	2	184	10	0	7	17	11	163	1	175	5	0	2	7	383
Total	5	760	25	790	44	1	21	66	24	617	6	647	17	0	6	23	1526
01:00 PM	1	161	8	170	5	0	0	5	4	140	5	149	3	0	0	3	327
01:15 PM	4	193	7	204	8	0	5	13	6	144	2	152	1	0	2	3	372
01:30 PM	0	181	6	187	7	0	9	16	3	170	1	174	0	0	2	2	379
01:45 PM	1	196	3	200	8	0	4	12	6	158	3	167	2	0	0	2	381
Total	6	731	24	761	28	0	18	46	19	612	11	642	6	0	4	10	1459
02:00 PM	3	223	4	230	6	0	2	8	6	182	5	193	2	0	0	2	433

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File Name : 4775a
Site Code : 00004775
Start Date : 11/10/2021
Page No : 2

Groups Printed- Passenger + - Heavy

	S Meridian Southbound				27th Ave SE Westbound				S Meridian Northbound				Apartment Driveway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
02:15 PM	3	202	11	216	10	0	5	15	8	152	3	163	4	0	0	4	398
02:30 PM	2	214	8	224	7	0	6	13	10	189	3	202	4	0	0	4	443
02:45 PM	1	205	2	208	10	0	5	15	6	144	2	152	5	0	0	5	380
Total	9	844	25	878	33	0	18	51	30	667	13	710	15	0	0	15	1654
03:00 PM	4	203	5	212	2	0	2	4	2	191	1	194	5	0	1	6	416
03:15 PM	1	250	6	257	16	0	2	18	8	164	1	173	3	0	3	6	454
03:30 PM	2	228	5	235	4	0	1	5	4	157	3	164	1	1	3	5	409
03:45 PM	3	282	6	291	7	0	4	11	4	157	5	166	4	0	0	4	472
Total	10	963	22	995	29	0	9	38	18	669	10	697	13	1	7	21	1751
04:00 PM	2	236	4	242	6	0	3	9	8	154	2	164	5	0	3	8	423
04:15 PM	6	212	4	222	3	0	6	9	2	155	2	159	3	1	2	6	396
04:30 PM	3	235	7	245	7	0	2	9	5	143	5	153	3	0	6	9	416
04:45 PM	5	283	4	292	4	0	3	7	7	154	1	162	5	1	1	7	468
Total	16	966	19	1001	20	0	14	34	22	606	10	638	16	2	12	30	1703
05:00 PM	1	232	4	237	7	0	5	12	5	167	2	174	4	0	1	5	428
05:15 PM	1	244	12	257	5	0	5	10	11	175	4	190	1	0	0	1	458
05:30 PM	0	203	7	210	7	0	4	11	6	134	2	142	3	0	1	4	367
05:45 PM	3	191	1	195	3	0	5	8	4	128	6	138	3	0	1	4	345
Total	5	870	24	899	22	0	19	41	26	604	14	644	11	0	3	14	1598
06:00 PM	2	211	3	216	2	0	0	2	2	122	2	126	2	1	2	5	349
06:15 PM	1	180	4	185	2	0	1	3	5	135	5	145	1	0	4	5	338
06:30 PM	4	156	1	161	2	0	1	3	4	120	2	126	2	0	1	3	293
06:45 PM	2	130	6	138	4	0	3	7	1	96	1	98	1	0	0	1	244
Total	9	677	14	700	10	0	5	15	12	473	10	495	6	1	7	14	1224
Grand Total	111	9055	244	9410	315	2	201	518	278	7694	121	8093	142	12	88	242	18263
Apprch %	1.2	96.2	2.6		60.8	0.4	38.8		3.4	95.1	1.5		58.7	5	36.4		
Total %	0.6	49.6	1.3	51.5	1.7	0	1.1	2.8	1.5	42.1	0.7	44.3	0.8	0.1	0.5	1.3	
Passenger +	111	8921	238	9270	306	2	197	505	269	7571	119	7959	139	12	86	237	17971
% Passenger +	100	98.5	97.5	98.5	97.1	100	98	97.5	96.8	98.4	98.3	98.3	97.9	100	97.7	97.9	98.4
Heavy	0	134	6	140	9	0	4	13	9	123	2	134	3	0	2	5	292
% Heavy	0	1.5	2.5	1.5	2.9	0	2	2.5	3.2	1.6	1.7	1.7	2.1	0	2.3	2.1	1.6

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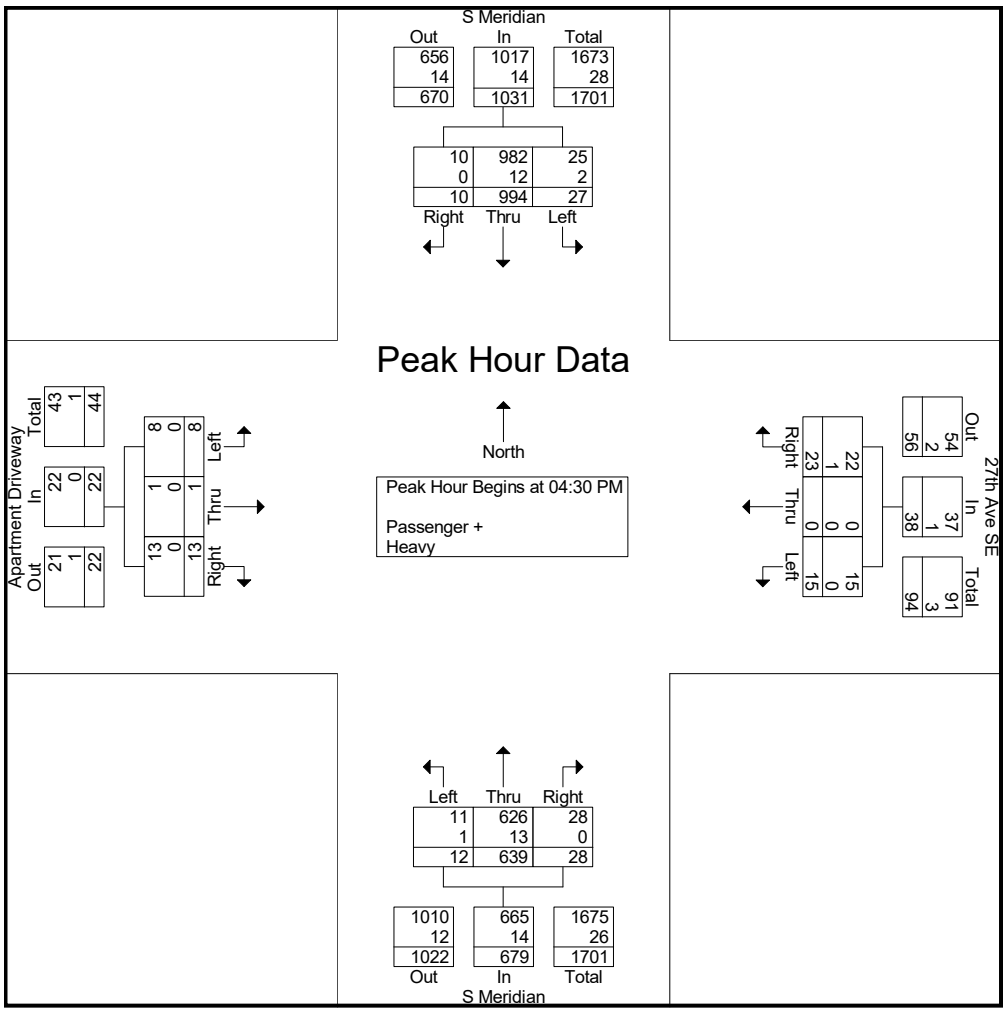
Puyallup, WA 98371

File Name : 4775a
Site Code : 00004775
Start Date : 11/10/2021
Page No : 3

	S Meridian Southbound				27th Ave SE Westbound				S Meridian Northbound				Apartment Driveway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	3	235	7	245	7	0	2	9	5	143	5	153	3	0	6	9	416
04:45 PM	5	283	4	292	4	0	3	7	7	154	1	162	5	1	1	7	468
05:00 PM	1	232	4	237	7	0	5	12	5	167	2	174	4	0	1	5	428
05:15 PM	1	244	12	257	5	0	5	10	11	175	4	190	1	0	0	1	458
Total Volume	10	994	27	1031	23	0	15	38	28	639	12	679	13	1	8	22	1770
% App. Total	1	96.4	2.6		60.5	0	39.5		4.1	94.1	1.8		59.1	4.5	36.4		
PHF	.500	.878	.563	.883	.821	.000	.750	.792	.636	.913	.600	.893	.650	.250	.333	.611	.946
Passenger +	10	982	25	1017	22	0	15	37	28	626	11	665	13	1	8	22	1741
% Passenger +	100	98.8	92.6	98.6	95.7	0	100	97.4	100	98.0	91.7	97.9	100	100	100	100	98.4
Heavy	0	12	2	14	1	0	0	1	0	13	1	14	0	0	0	0	29
% Heavy	0	1.2	7.4	1.4	4.3	0	0	2.6	0	2.0	8.3	2.1	0	0	0	0	1.6



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File Name : 4775C
Site Code : 00004775
Start Date : 11/10/2021
Page No : 1

Groups Printed- Passenger + - Heavy

	S Meridian Southbound				31st Ave SE Westbound				S Meridian Northbound				Driveway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	1	162	90	253	56	1	37	94	50	113	0	163	0	0	0	0	510
04:15 PM	0	150	82	232	57	0	39	96	63	101	0	164	0	0	0	0	492
04:30 PM	2	164	92	258	57	0	48	105	55	94	0	149	0	0	0	0	512
04:45 PM	0	202	97	299	52	1	41	94	54	111	0	165	0	0	0	0	558
Total	3	678	361	1042	222	2	165	389	222	419	0	641	0	0	0	0	2072
05:00 PM	0	171	86	257	65	0	42	107	55	104	0	159	3	0	0	3	526
05:15 PM	0	171	86	257	64	0	37	101	46	103	0	149	0	0	0	0	507
05:30 PM	0	154	77	231	47	0	44	91	36	95	0	131	0	0	0	0	453
05:45 PM	0	130	77	207	57	0	30	87	40	97	0	137	0	0	0	0	431
Total	0	626	326	952	233	0	153	386	177	399	0	576	3	0	0	3	1917
Grand Total	3	1304	687	1994	455	2	318	775	399	818	0	1217	3	0	0	3	3989
Apprch %	0.2	65.4	34.5		58.7	0.3	41		32.8	67.2	0		100	0	0		
Total %	0.1	32.7	17.2	50	11.4	0.1	8	19.4	10	20.5	0	30.5	0.1	0	0	0.1	
Passenger +	3	1296	680	1979	448	2	315	765	399	808	0	1207	3	0	0	3	3954
% Passenger +	100	99.4	99	99.2	98.5	100	99.1	98.7	100	98.8	0	99.2	100	0	0	100	99.1
Heavy	0	8	7	15	7	0	3	10	0	10	0	10	0	0	0	0	35
% Heavy	0	0.6	1	0.8	1.5	0	0.9	1.3	0	1.2	0	0.8	0	0	0	0	0.9

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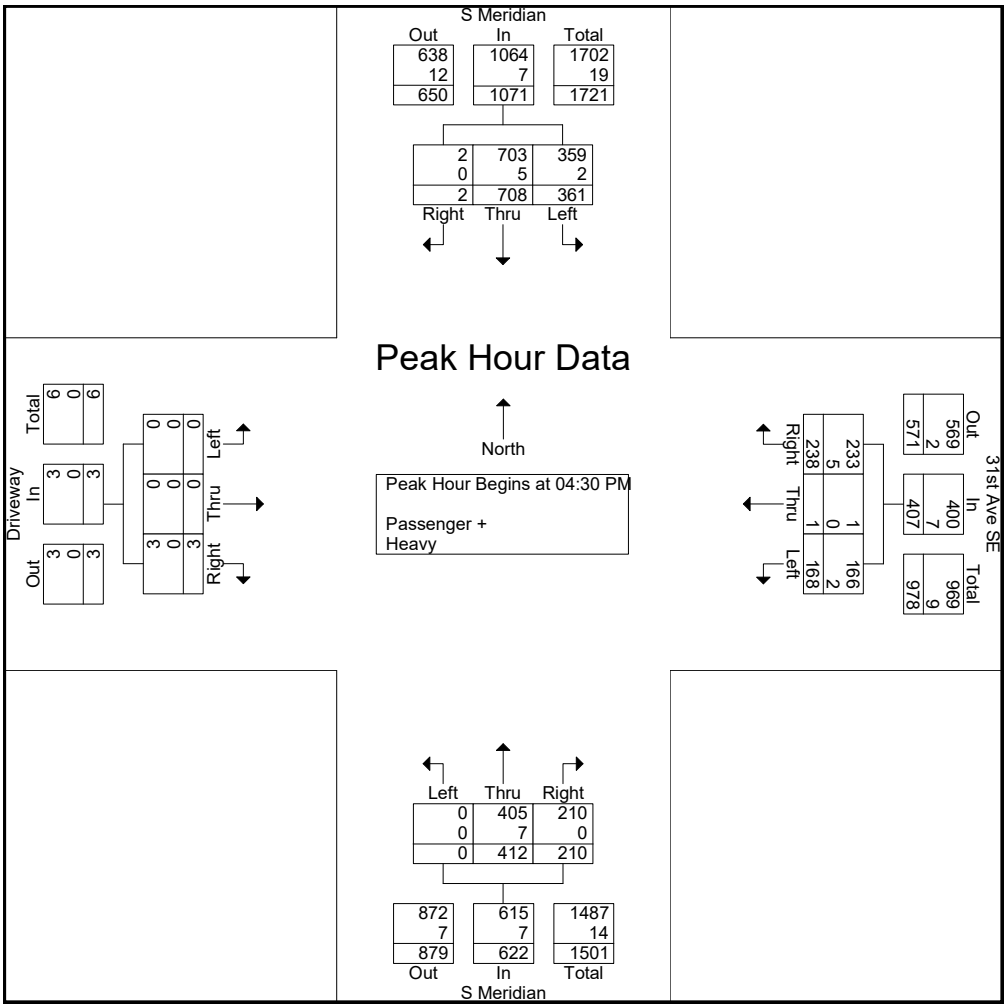
File Name : 4775C
Site Code : 00004775
Start Date : 11/10/2021
Page No : 2

	S Meridian Southbound				31st Ave SE Westbound				S Meridian Northbound				Driveway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	164	92	258	57	0	48	105	55	94	0	149	0	0	0	0	512
04:45 PM	0	202	97	299	52	1	41	94	54	111	0	165	0	0	0	0	558
05:00 PM	0	171	86	257	65	0	42	107	55	104	0	159	3	0	0	3	526
05:15 PM	0	171	86	257	64	0	37	101	46	103	0	149	0	0	0	0	507
Total Volume	2	708	361	1071	238	1	168	407	210	412	0	622	3	0	0	3	2103
% App. Total	0.2	66.1	33.7		58.5	0.2	41.3		33.8	66.2	0		100	0	0		
PHF	.250	.876	.930	.895	.915	.250	.875	.951	.955	.928	.000	.942	.250	.000	.000	.250	.942
Passenger +	2	703	359	1064	233	1	166	400	210	405	0	615	3	0	0	3	2082
% Passenger +	100	99.3	99.4	99.3	97.9	100	98.8	98.3	100	98.3	0	98.9	100	0	0	100	99.0
Heavy	0	5	2	7	5	0	2	7	0	7	0	7	0	0	0	0	21
% Heavy	0	0.7	0.6	0.7	2.1	0	1.2	1.7	0	1.7	0	1.1	0	0	0	0	1.0



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File Name : 4775d
Site Code : 00004775
Start Date : 11/10/2021
Page No : 1

Groups Printed- Passenger + - Heavy

	S Meridian Southbound				Meridian Ave E Westbound				S Meridian Northbound				31st Ave SW Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	60	0	145	205	78	351	0	429	0	0	0	0	0	290	70	360	994
04:15 PM	66	0	134	200	82	310	0	392	0	0	0	0	0	280	74	354	946
04:30 PM	68	0	137	205	70	300	0	370	0	0	0	0	0	290	63	353	928
04:45 PM	67	0	161	228	93	279	0	372	0	0	0	0	0	284	65	349	949
Total	261	0	577	838	323	1240	0	1563	0	0	0	0	0	1144	272	1416	3817
05:00 PM	82	0	143	225	87	305	0	392	0	0	0	0	0	286	61	347	964
05:15 PM	59	0	129	188	85	300	0	385	0	0	0	0	0	280	56	336	909
05:30 PM	52	0	150	202	82	290	0	372	0	0	0	0	0	297	50	347	921
05:45 PM	52	0	116	168	74	252	0	326	0	0	0	0	0	295	52	347	841
Total	245	0	538	783	328	1147	0	1475	0	0	0	0	0	1158	219	1377	3635
Grand Total	506	0	1115	1621	651	2387	0	3038	0	0	0	0	0	2302	491	2793	7452
Apprch %	31.2	0	68.8		21.4	78.6	0		0	0	0		0	82.4	17.6		
Total %	6.8	0	15	21.8	8.7	32	0	40.8	0	0	0	0	0	30.9	6.6	37.5	
Passenger +	499	0	1105	1604	645	2313	0	2958	0	0	0	0	0	2269	489	2758	7320
% Passenger +	98.6	0	99.1	99	99.1	96.9	0	97.4	0	0	0	0	0	98.6	99.6	98.7	98.2
Heavy	7	0	10	17	6	74	0	80	0	0	0	0	0	33	2	35	132
% Heavy	1.4	0	0.9	1	0.9	3.1	0	2.6	0	0	0	0	0	1.4	0.4	1.3	1.8

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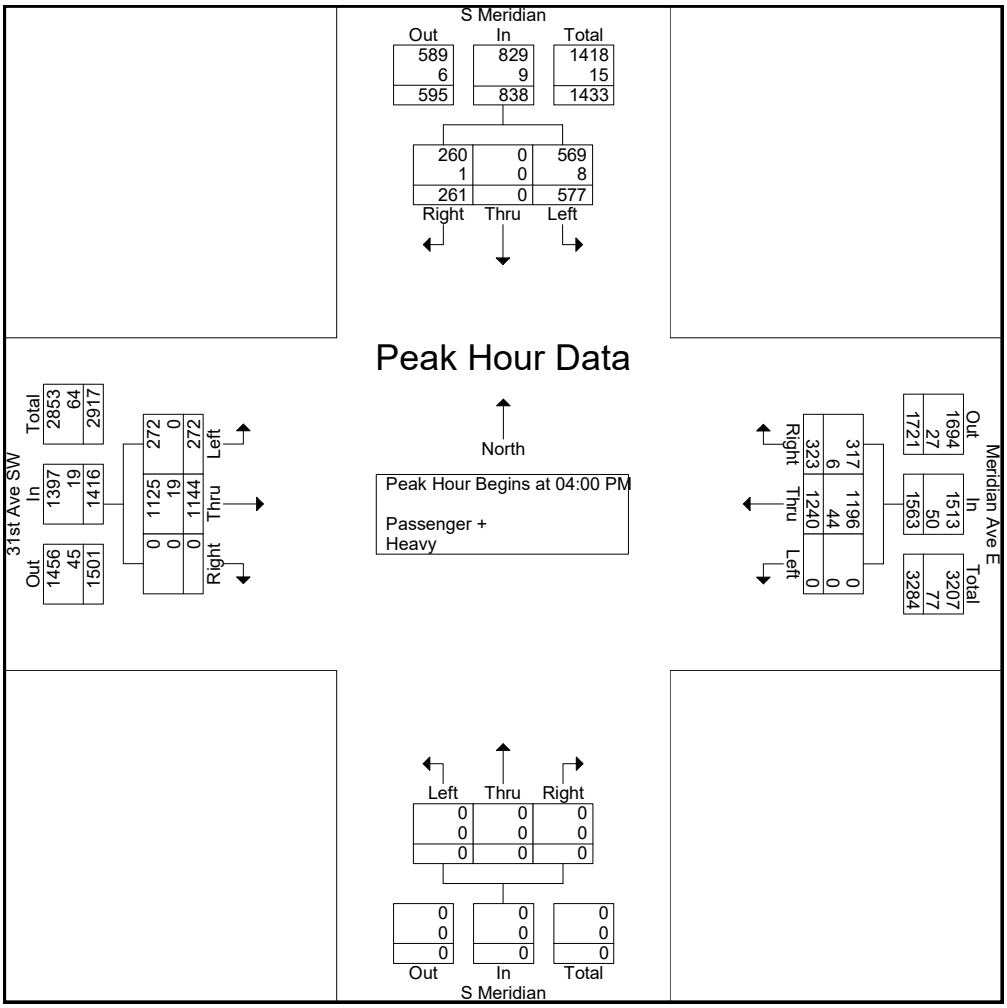
File Name : 4775d
Site Code : 00004775
Start Date : 11/10/2021
Page No : 2

	S Meridian Southbound				Meridian Ave E Westbound				S Meridian Northbound				31st Ave SW Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	60	0	145	205	78	351	0	429	0	0	0	0	0	290	70	360	994
04:15 PM	66	0	134	200	82	310	0	392	0	0	0	0	0	280	74	354	946
04:30 PM	68	0	137	205	70	300	0	370	0	0	0	0	0	290	63	353	928
04:45 PM	67	0	161	228	93	279	0	372	0	0	0	0	0	284	65	349	949
Total Volume	261	0	577	838	323	1240	0	1563	0	0	0	0	0	1144	272	1416	3817
% App. Total	31.1	0	68.9		20.7	79.3	0		0	0	0		0	80.8	19.2		
PHF	.960	.000	.896	.919	.868	.883	.000	.911	.000	.000	.000	.000	.000	.986	.919	.983	.960
Passenger +	260	0	569	829	317	1196	0	1513	0	0	0	0	0	1125	272	1397	3739
% Passenger +	99.6	0	98.6	98.9	98.1	96.5	0	96.8	0	0	0	0	0	98.3	100	98.7	98.0
Heavy	1	0	8	9	6	44	0	50	0	0	0	0	0	19	0	19	78
% Heavy	0.4	0	1.4	1.1	1.9	3.5	0	3.2	0	0	0	0	0	1.7	0	1.3	2.0



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File Name : 4775b
Site Code : 00004775
Start Date : 11/10/2021
Page No : 1

Groups Printed- Passenger + - Heavy

	7th St SE Southbound			7th St SE Northbound			27th Ave SE Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
04:00 PM	2	102	104	86	8	94	8	2	10	208
04:15 PM	2	104	106	85	5	90	9	3	12	208
04:30 PM	4	99	103	80	6	86	8	0	8	197
04:45 PM	1	97	98	71	6	77	11	4	15	190
Total	9	402	411	322	25	347	36	9	45	803
05:00 PM	3	106	109	79	5	84	10	1	11	204
05:15 PM	4	89	93	78	8	86	3	6	9	188
05:30 PM	1	88	89	71	6	77	5	3	8	174
05:45 PM	0	87	87	62	9	71	4	1	5	163
Total	8	370	378	290	28	318	22	11	33	729
Grand Total	17	772	789	612	53	665	58	20	78	1532
Apprch %	2.2	97.8		92	8		74.4	25.6		
Total %	1.1	50.4	51.5	39.9	3.5	43.4	3.8	1.3	5.1	
Passenger +	17	762	779	607	52	659	58	19	77	1515
% Passenger +	100	98.7	98.7	99.2	98.1	99.1	100	95	98.7	98.9
Heavy	0	10	10	5	1	6	0	1	1	17
% Heavy	0	1.3	1.3	0.8	1.9	0.9	0	5	1.3	1.1

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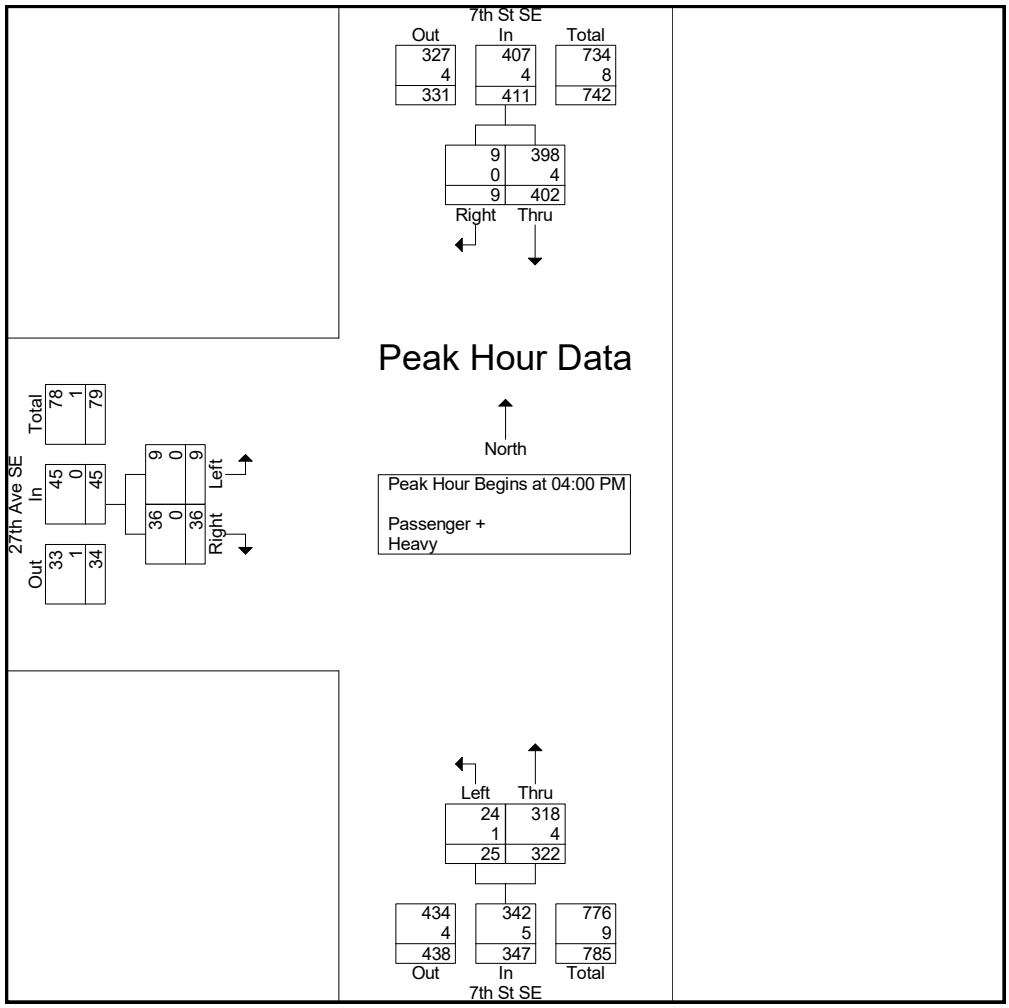
File Name : 4775b
Site Code : 00004775
Start Date : 11/10/2021
Page No : 2

	7th St SE Southbound			7th St SE Northbound			27th Ave SE Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	2	102	104	86	8	94	8	2	10	208
04:15 PM	2	104	106	85	5	90	9	3	12	208
04:30 PM	4	99	103	80	6	86	8	0	8	197
04:45 PM	1	97	98	71	6	77	11	4	15	190
Total Volume	9	402	411	322	25	347	36	9	45	803
% App. Total	2.2	97.8		92.8	7.2		80	20		
PHF	.563	.966	.969	.936	.781	.923	.818	.563	.750	.965
Passenger +	9	398	407	318	24	342	36	9	45	794
% Passenger +	100	99.0	99.0	98.8	96.0	98.6	100	100	100	98.9
Heavy	0	4	4	4	1	5	0	0	0	9
% Heavy	0	1.0	1.0	1.2	4.0	1.4	0	0	0	1.1



Mobile Home Park
(240)

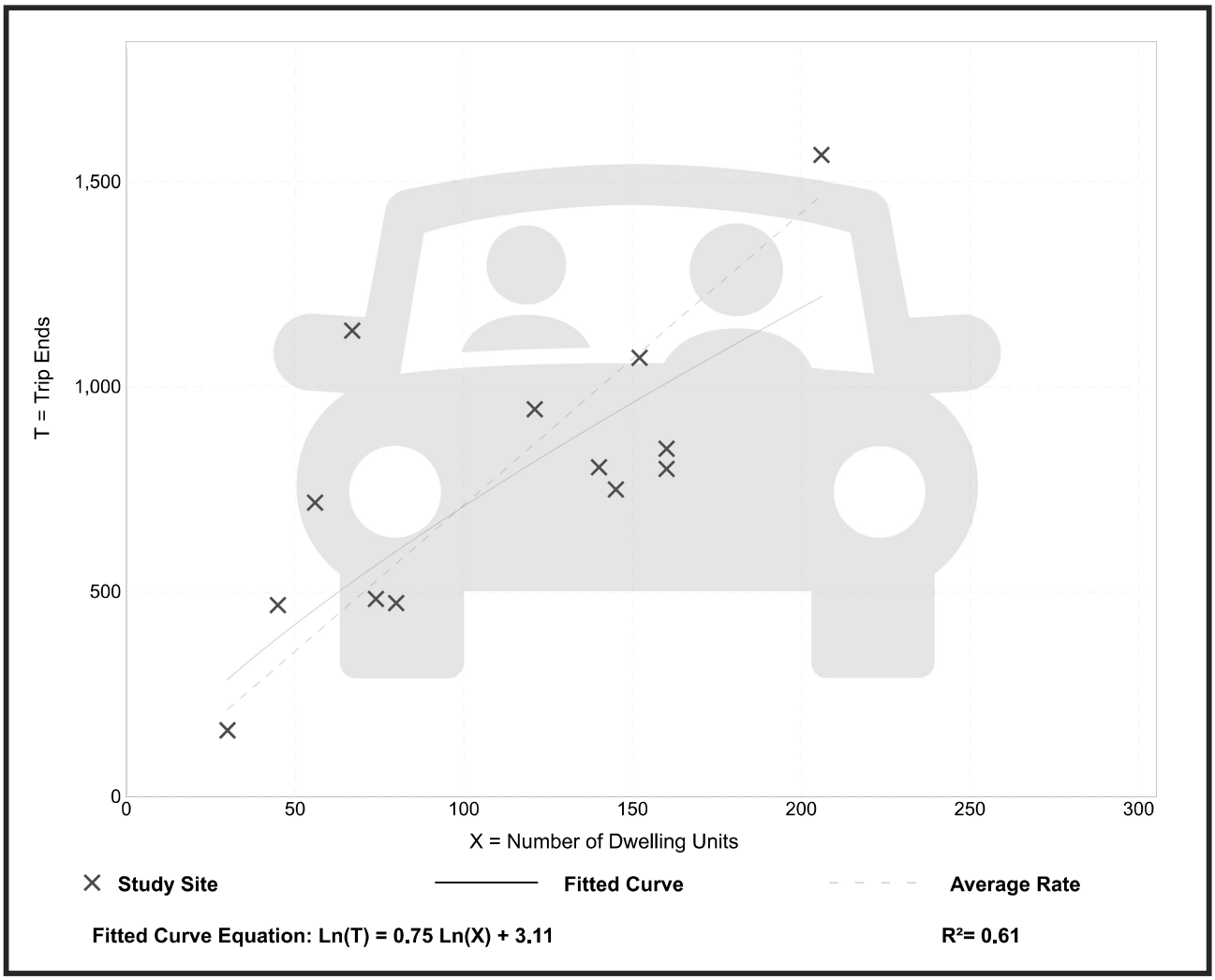
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 13
Avg. Num. of Dwelling Units: 110
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.12	5.00 - 16.96	2.91

Data Plot and Equation



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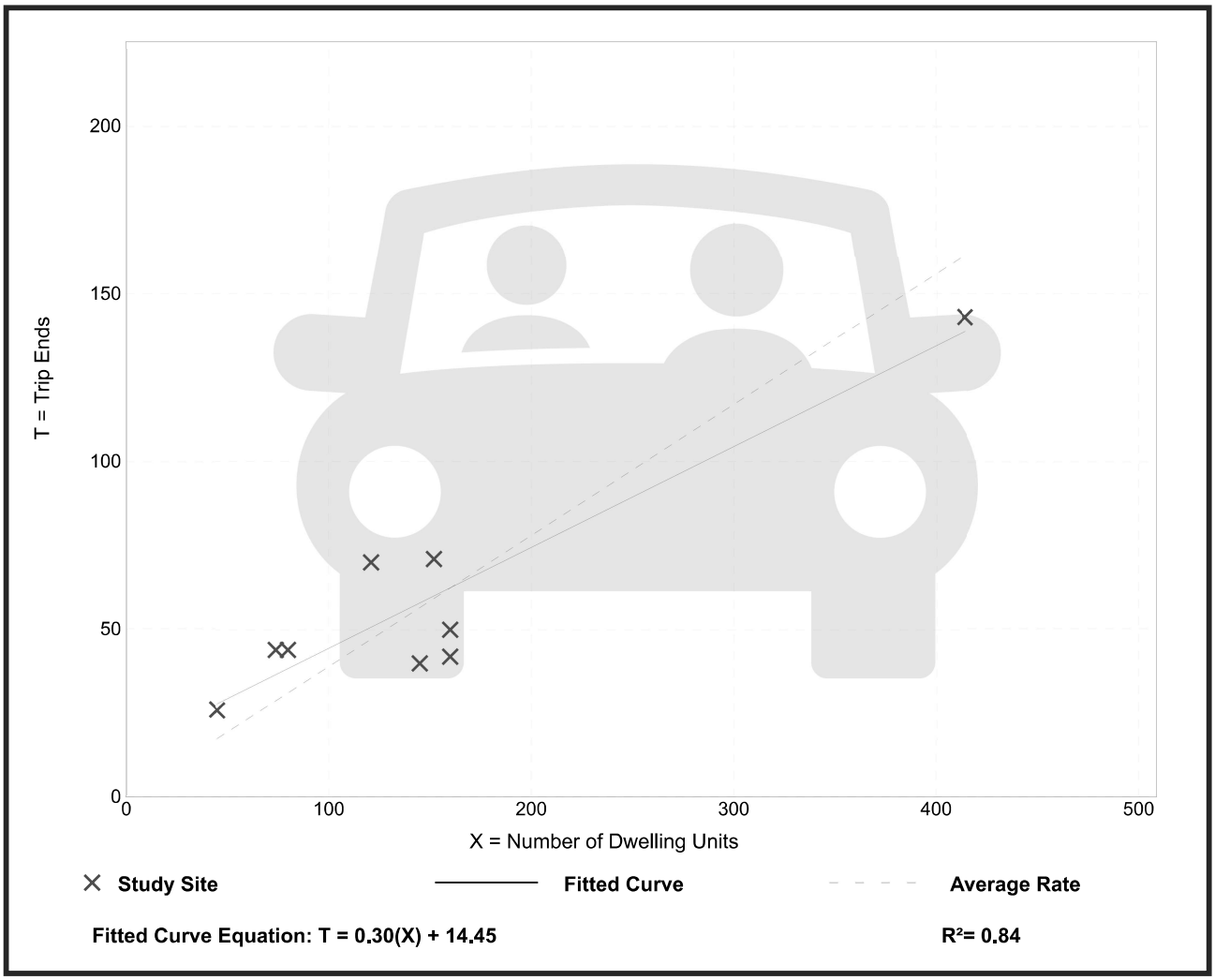
Mobile Home Park
(240)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Dwelling Units: 150
Directional Distribution: 21% entering, 79% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.26 - 0.59	0.12

Data Plot and Equation



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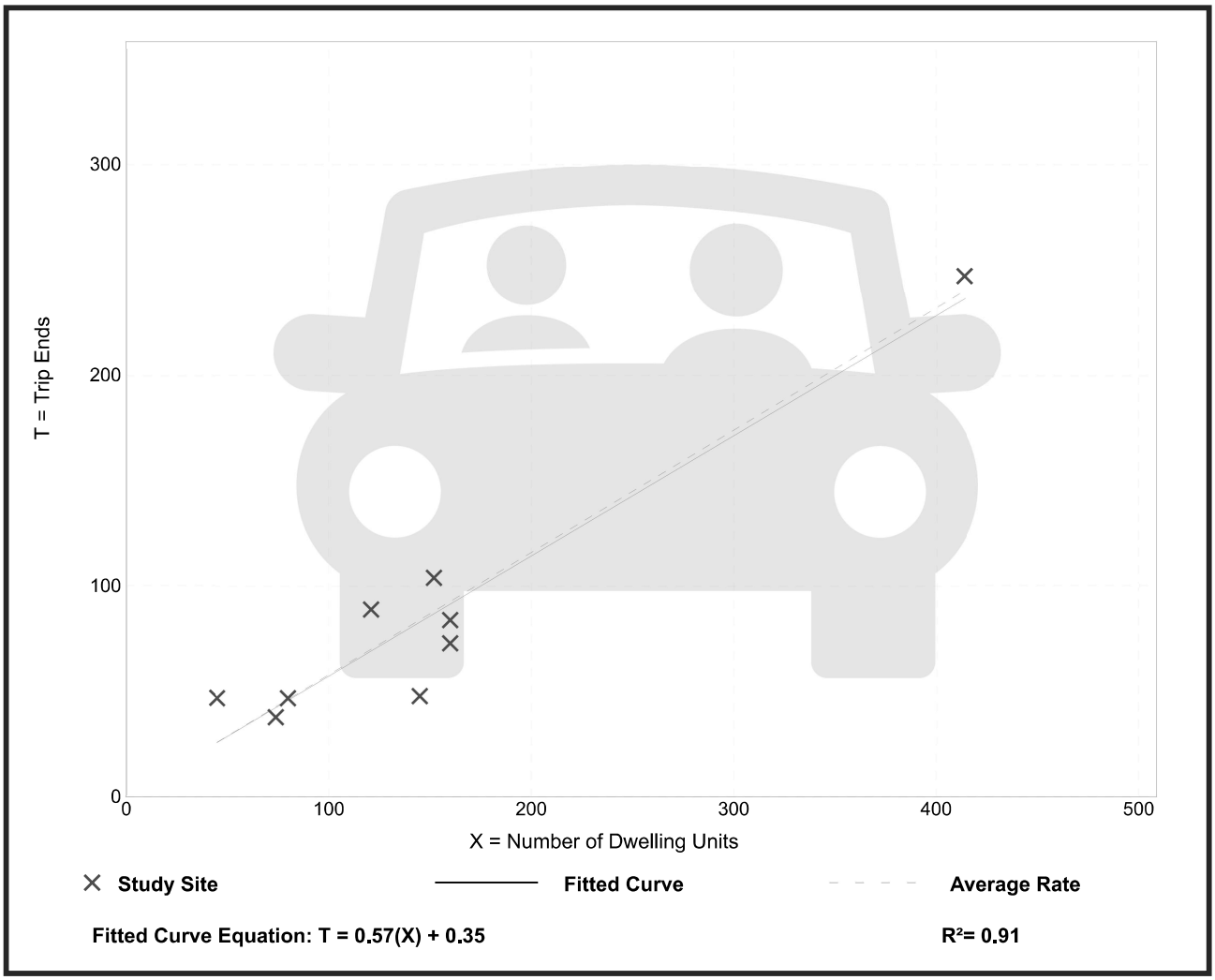
Mobile Home Park
(240)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Dwelling Units: 150
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.58	0.33 - 1.04	0.15

Data Plot and Equation



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Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

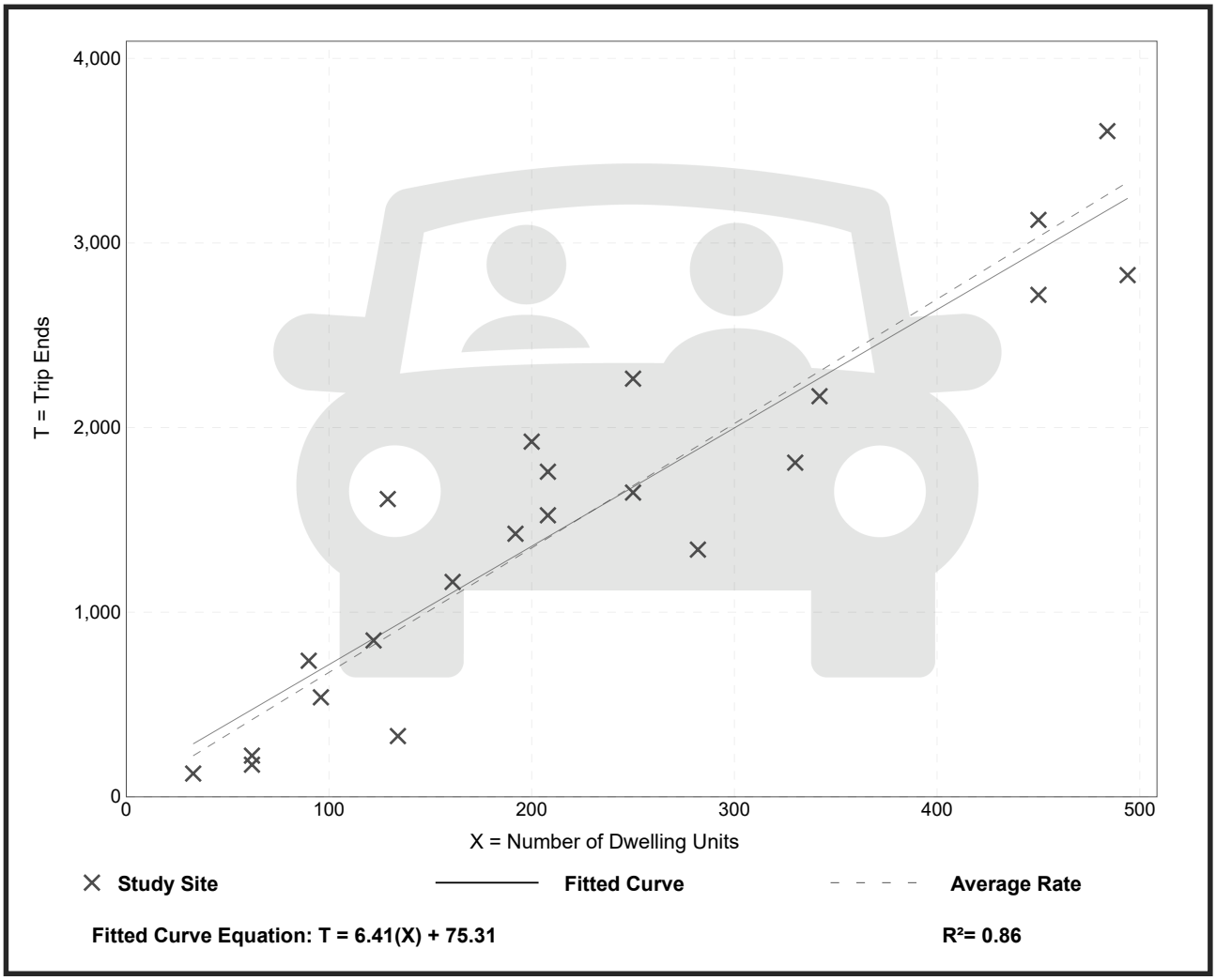
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

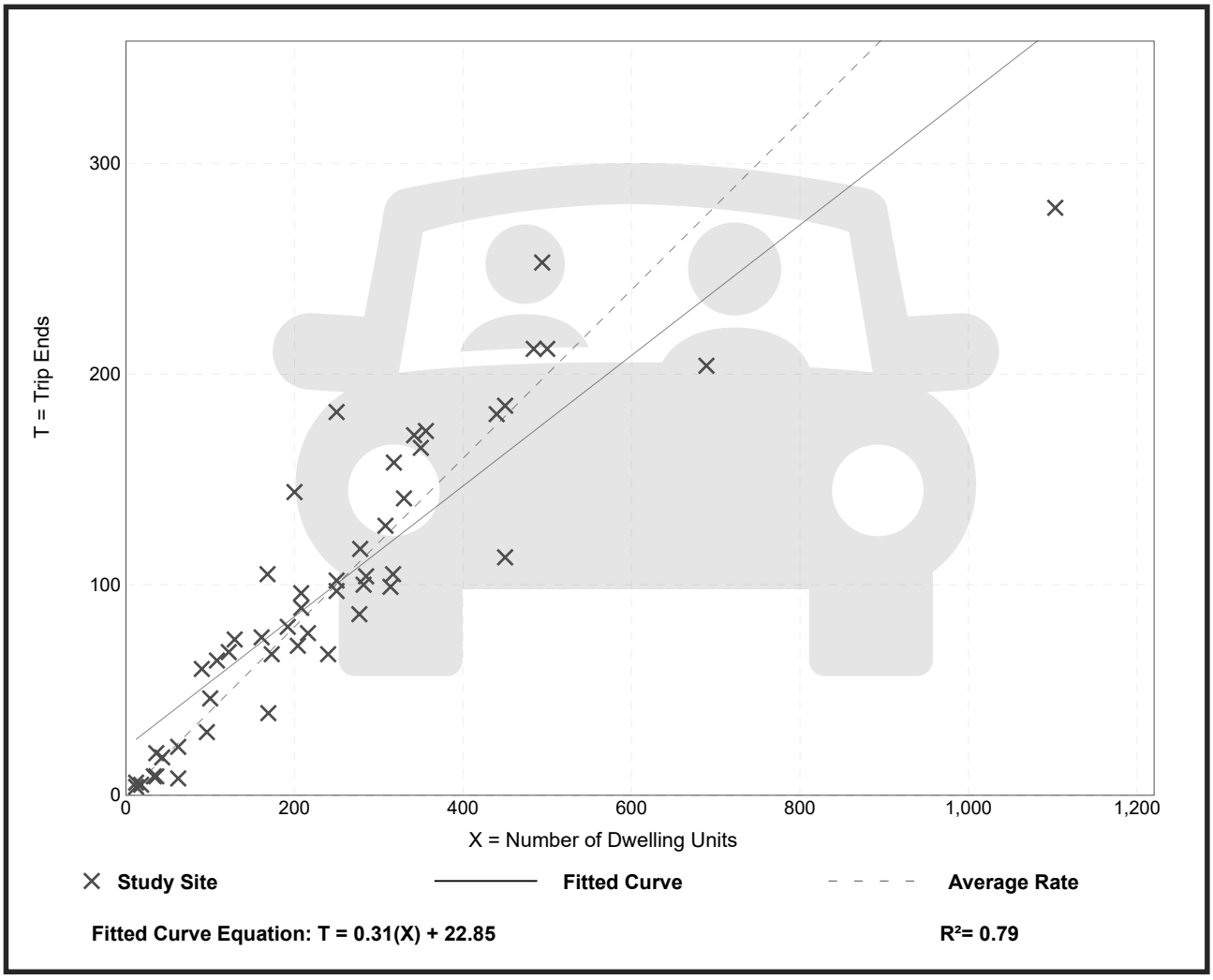
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 49
Avg. Num. of Dwelling Units: 249
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



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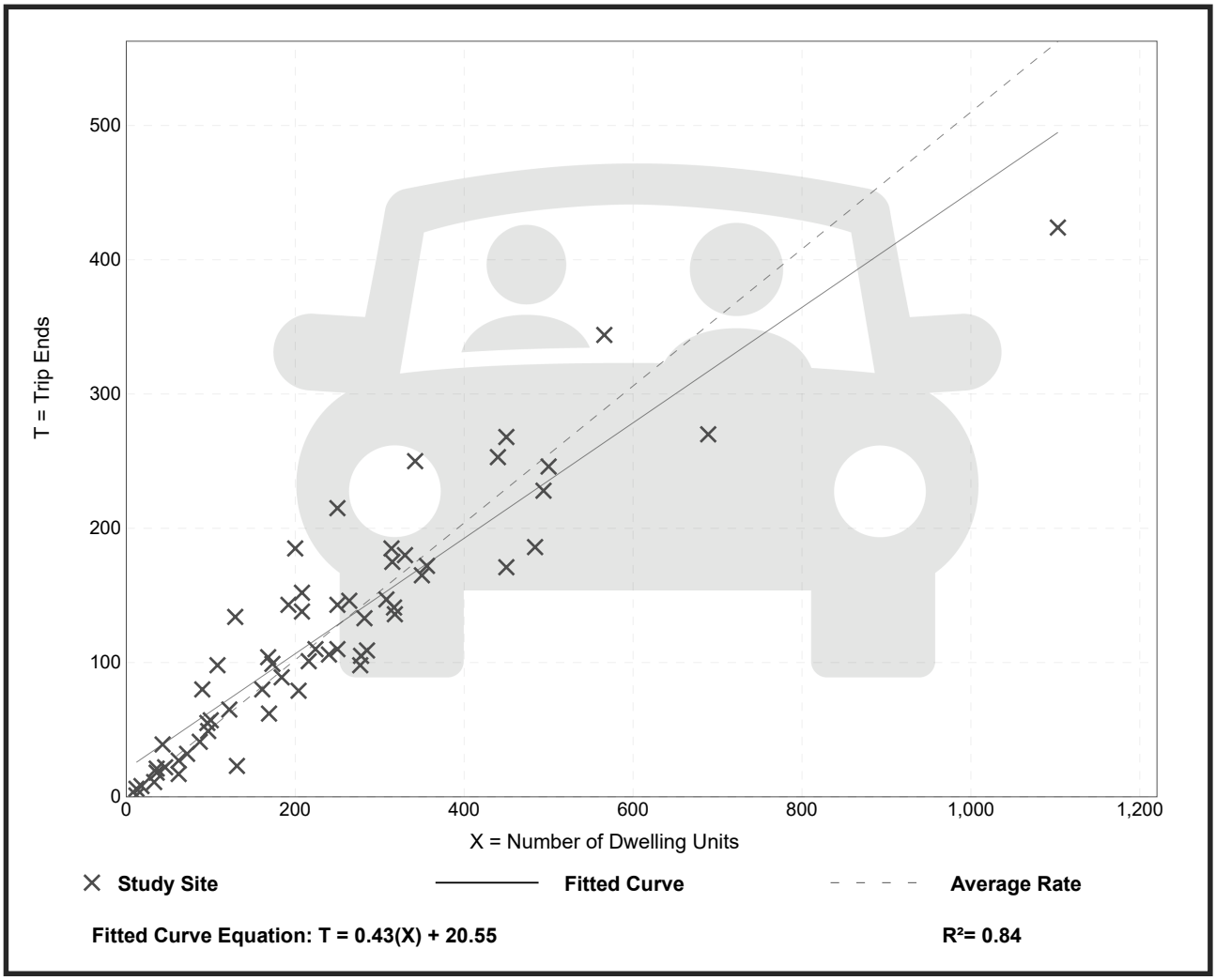
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 59
Avg. Num. of Dwelling Units: 241
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



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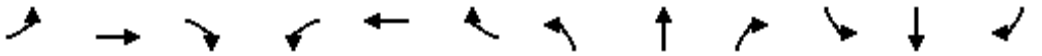

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	8	29	52	10	183	43	520	56	281	963	38
Future Volume (vph)	16	8	29	52	10	183	43	520	56	281	963	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	75		0	150		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.883			0.858			0.985			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1661	0	1703	1599	0	1787	3480	0	1770	3550	0
Flt Permitted	0.504			0.730			0.238			0.296		
Satd. Flow (perm)	948	1661	0	1308	1599	0	448	3480	0	551	3550	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			203			10			6	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		574			588			576			468	
Travel Time (s)		13.0			13.4			11.2			9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	6%	1%	2%	1%	2%	4%	2%	1%	3%
Adj. Flow (vph)	18	9	32	58	11	203	48	578	62	312	1070	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	41	0	58	214	0	48	640	0	312	1112	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	33.0	33.0		33.0	33.0		13.0	47.0		40.0	74.0	
Total Split (%)	27.5%	27.5%		27.5%	27.5%		10.8%	39.2%		33.3%	61.7%	
Maximum Green (s)	28.5	28.5		28.5	28.5		8.5	42.5		35.5	69.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	8.3	8.3		8.3	8.3		26.2	19.5		33.7	28.1	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.50	0.38		0.65	0.54	
v/c Ratio	0.12	0.14		0.28	0.50		0.12	0.49		0.53	0.58	
Control Delay	24.6	12.9		26.2	9.7		4.5	13.4		7.1	10.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.6	12.9		26.2	9.7		4.5	13.4		7.1	10.8	
LOS	C	B		C	A		A	B		A	B	
Approach Delay		16.5			13.2			12.7			10.0	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 51.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 11.3 Intersection LOS: B
Intersection Capacity Utilization 56.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: S Meridian & 23rd Ave SW/23rd Ave SE

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PO Box 397 Puyallup, WA 98371 (253) 770 1401 heathtraffic.com

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	13	15	0	23	12	639	28	27	994	10
Future Vol, veh/h	8	1	13	15	0	23	12	639	28	27	994	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	4	8	2	1	7	1	1
Mvmt Flow	8	1	14	16	0	24	13	673	29	28	1046	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1471	1836	529	1294	1827	351	1057	0	0	702	0	0
Stage 1	1108	1108	-	714	714	-	-	-	-	-	-	-
Stage 2	363	728	-	580	1113	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.98	4.26	-	-	4.24	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.34	2.28	-	-	2.27	-	-
Pot Cap-1 Maneuver	89	76	497	121	77	639	620	-	-	859	-	-
Stage 1	226	286	-	391	436	-	-	-	-	-	-	-
Stage 2	631	429	-	470	284	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	72	497	112	73	639	620	-	-	859	-	-
Mov Cap-2 Maneuver	173	180	-	235	179	-	-	-	-	-	-	-
Stage 1	221	277	-	383	427	-	-	-	-	-	-	-
Stage 2	594	420	-	440	275	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	15	0.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	620	-	-	282	235	639	859	-	-
HCM Lane V/C Ratio	0.02	-	-	0.082	0.067	0.038	0.033	-	-
HCM Control Delay (s)	10.9	-	-	18.9	21.4	10.9	9.3	-	-
HCM Lane LOS	B	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.1	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	169	238	412	210	361	710
Future Volume (vph)	169	238	412	210	361	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		300	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1583	3539	1599	1787	3574
Flt Permitted	0.950				0.361	
Satd. Flow (perm)	1787	1583	3539	1599	679	3574
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		142		223		
Link Speed (mph)	30		35			35
Link Distance (ft)	398		356			430
Travel Time (s)	9.0		6.9			8.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	2%	2%	1%	1%	1%
Adj. Flow (vph)	180	253	438	223	384	755
Shared Lane Traffic (%)						
Lane Group Flow (vph)	180	253	438	223	384	755
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Turn Type	Prot	pm+ov	NA	Perm	pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	27.0	33.0	30.0	30.0	33.0	63.0
Total Split (%)	30.0%	36.7%	33.3%	33.3%	36.7%	70.0%
Maximum Green (s)	22.5	28.5	25.5	25.5	28.5	58.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	None	Min

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	11.4	24.7	13.6	13.6	31.4	33.1
Actuated g/C Ratio	0.24	0.51	0.28	0.28	0.65	0.68
v/c Ratio	0.43	0.29	0.44	0.37	0.53	0.31
Control Delay	22.6	3.9	17.8	5.1	8.1	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	3.9	17.8	5.1	8.1	5.3
LOS	C	A	B	A	A	A
Approach Delay	11.7		13.5			6.2
Approach LOS	B		B			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 48.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

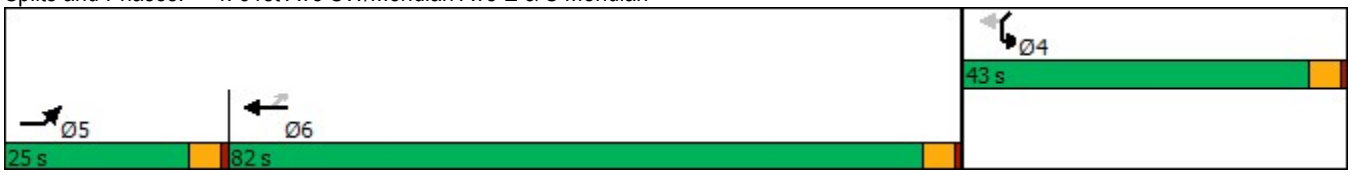
Splits and Phases: 3: S Meridian & 31st Ave SE

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	272	0	1240	323	577	261
Future Volume (vph)	272	0	1240	323	577	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225			425	0	175
Storage Lanes	1			1	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	0	3471	1583	3467	1599
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	0	3471	1583	3467	1599
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				336		227
Link Speed (mph)		35	35		35	
Link Distance (ft)		513	573		319	
Travel Time (s)		10.0	11.2		6.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	4%	2%	1%	1%
Adj. Flow (vph)	283	0	1292	336	601	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	283	0	1292	336	601	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Turn Type	Prot		NA	Perm	Prot	Perm
Protected Phases	5		6		4	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	22.5	22.5
Total Split (s)	25.0		82.0	82.0	43.0	43.0
Total Split (%)	16.7%		54.7%	54.7%	28.7%	28.7%
Maximum Green (s)	20.5		77.5	77.5	38.5	38.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Walk Time (s)			7.0	7.0	7.0	7.0
Flash Dont Walk (s)			11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)			0	0	0	0
Act Effct Green (s)	15.3		55.3	55.3	26.4	26.4
Actuated g/C Ratio	0.14		0.50	0.50	0.24	0.24
v/c Ratio	0.60		0.75	0.35	0.73	0.49
Control Delay	54.6		26.2	2.9	46.8	12.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	54.6		26.2	2.9	46.8	12.3
LOS	D		C	A	D	B
Approach Delay		54.6	21.4		36.1	
Approach LOS		D	C		D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 111.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 29.4		Intersection LOS: C	
Intersection Capacity Utilization 69.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: 31st Ave SW/Meridian Ave E & S Meridian



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Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	36	25	322	402	9
Future Vol, veh/h	9	36	25	322	402	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	4	1	1	1
Mvmt Flow	9	37	26	332	414	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	803	419	423	0	-	0
Stage 1	419	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.14	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.236	-	-	-
Pot Cap-1 Maneuver	354	636	1126	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	346	636	1126	-	-	-
Mov Cap-2 Maneuver	464	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1126	-	592	-	-
HCM Lane V/C Ratio	0.023	-	0.078	-	-
HCM Control Delay (s)	8.3	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	29	17	12	9	21
Future Vol, veh/h	27	29	17	12	9	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	4	3	2	2	2
Mvmt Flow	29	32	18	13	10	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	31	0	-	0	115	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1582	-	-	-	881	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1582	-	-	-	865	1051
Mov Cap-2 Maneuver	-	-	-	-	829	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1582	-	-	-	973
HCM Lane V/C Ratio	0.019	-	-	-	0.034
HCM Control Delay (s)	7.3	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	13	15	0	23	12	639	28	27	994	10
Future Vol, veh/h	8	1	13	15	0	23	12	639	28	27	994	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	4	8	2	1	7	1	1
Mvmt Flow	8	1	14	16	0	24	13	673	29	28	1046	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1471	1836	529	1294	1827	351	1057	0	0	702	0	0
Stage 1	1108	1108	-	714	714	-	-	-	-	-	-	-
Stage 2	363	728	-	580	1113	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.98	4.26	-	-	4.24	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.34	2.28	-	-	2.27	-	-
Pot Cap-1 Maneuver	89	76	497	121	77	639	620	-	-	859	-	-
Stage 1	226	286	-	391	436	-	-	-	-	-	-	-
Stage 2	631	429	-	470	284	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	72	497	112	73	639	620	-	-	859	-	-
Mov Cap-2 Maneuver	173	180	-	235	179	-	-	-	-	-	-	-
Stage 1	221	277	-	383	427	-	-	-	-	-	-	-
Stage 2	594	420	-	440	275	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	15	0.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	620	-	-	282	235	639	859	-	-
HCM Lane V/C Ratio	0.02	-	-	0.082	0.067	0.038	0.033	-	-
HCM Control Delay (s)	10.9	-	-	18.9	21.4	10.9	9.3	-	-
HCM Lane LOS	B	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	36	25	322	402	9
Future Vol, veh/h	9	36	25	322	402	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	4	1	1	1
Mvmt Flow	9	37	26	332	414	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	803	419	423	0	-	0
Stage 1	419	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.14	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.236	-	-	-
Pot Cap-1 Maneuver	354	636	1126	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	346	636	1126	-	-	-
Mov Cap-2 Maneuver	464	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1126	-	592	-	-
HCM Lane V/C Ratio	0.023	-	0.078	-	-
HCM Control Delay (s)	8.3	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

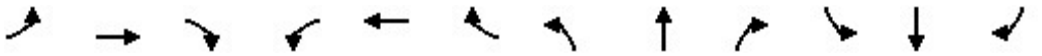
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	29	17	12	9	21
Future Vol, veh/h	27	29	17	12	9	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	4	3	2	2	2
Mvmt Flow	29	32	18	13	10	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	31	0	-	0	115	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1582	-	-	-	881	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1582	-	-	-	865	1051
Mov Cap-2 Maneuver	-	-	-	-	829	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1582	-	-	-	973
HCM Lane V/C Ratio	0.019	-	-	-	0.034
HCM Control Delay (s)	7.3	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

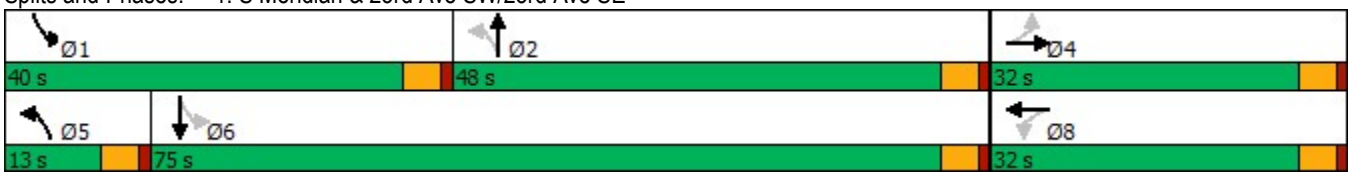


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	9	32	57	11	200	47	568	61	307	1052	42
Future Volume (vph)	17	9	32	57	11	200	47	568	61	307	1052	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	75		0	150		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.883			0.858			0.985			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1661	0	1703	1599	0	1787	3479	0	1770	3550	0
Flt Permitted	0.455			0.727			0.204			0.273		
Satd. Flow (perm)	856	1661	0	1303	1599	0	384	3479	0	509	3550	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			222			11			6	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		574			588			576			468	
Travel Time (s)		13.0			13.4			11.2			9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	6%	1%	2%	1%	2%	4%	2%	1%	3%
Adj. Flow (vph)	19	10	36	63	12	222	52	631	68	341	1169	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	46	0	63	234	0	52	699	0	341	1216	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	32.0	32.0		32.0	32.0		13.0	48.0		40.0	75.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		10.8%	40.0%		33.3%	62.5%	
Maximum Green (s)	27.5	27.5		27.5	27.5		8.5	43.5		35.5	70.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	8.8	8.8		8.8	8.8		28.8	21.9		37.3	31.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.52	0.39		0.67	0.56	
v/c Ratio	0.14	0.16		0.31	0.53		0.14	0.51		0.59	0.61	
Control Delay	27.6	13.6		28.9	10.2		4.9	14.0		8.0	11.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.6	13.6		28.9	10.2		4.9	14.0		8.0	11.0	
LOS	C	B		C	B		A	B		A	B	
Approach Delay		17.7			14.2			13.4			10.3	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 55.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: S Meridian & 23rd Ave SW/23rd Ave SE



Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	1	14	16	0	25	13	698	31	30	1086	11
Future Vol, veh/h	9	1	14	16	0	25	13	698	31	30	1086	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	4	8	2	1	7	1	1
Mvmt Flow	9	1	15	17	0	26	14	735	33	32	1143	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1609	2009	578	1416	1999	384	1155	0	0	768	0	0
Stage 1	1213	1213	-	780	780	-	-	-	-	-	-	-
Stage 2	396	796	-	636	1219	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.98	4.26	-	-	4.24	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.34	2.28	-	-	2.27	-	-
Pot Cap-1 Maneuver	71	59	462	98	60	609	568	-	-	810	-	-
Stage 1	194	255	-	357	406	-	-	-	-	-	-	-
Stage 2	603	399	-	435	253	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	65	55	462	90	56	609	568	-	-	810	-	-
Mov Cap-2 Maneuver	149	157	-	209	156	-	-	-	-	-	-	-
Stage 1	189	245	-	348	396	-	-	-	-	-	-	-
Stage 2	563	389	-	403	243	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.2	16.1	0.2	0.3
HCM LOS	C	C		

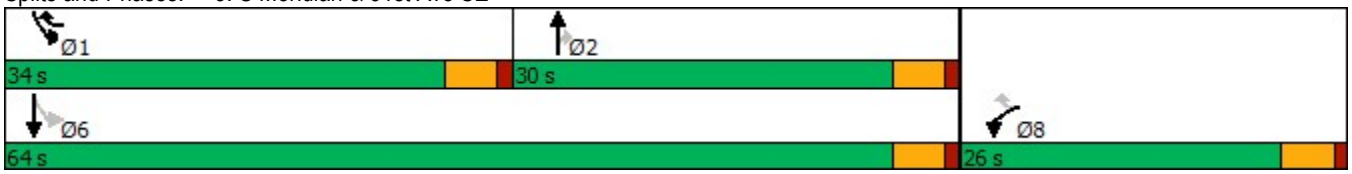
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	568	-	-	247	209	609	810	-	-
HCM Lane V/C Ratio	0.024	-	-	0.102	0.081	0.043	0.039	-	-
HCM Control Delay (s)	11.5	-	-	21.2	23.7	11.2	9.6	-	-
HCM Lane LOS	B	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.3	0.1	0.1	-	-

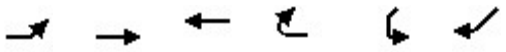
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	184	260	450	229	394	774
Future Volume (vph)	184	260	450	229	394	774
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		300	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1583	3539	1599	1787	3574
Flt Permitted	0.950				0.323	
Satd. Flow (perm)	1787	1583	3539	1599	608	3574
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		117		244		
Link Speed (mph)	30		35			35
Link Distance (ft)	398		356			430
Travel Time (s)	9.0		6.9			8.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	2%	2%	1%	1%	1%
Adj. Flow (vph)	196	277	479	244	419	823
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	277	479	244	419	823
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Turn Type	Prot	pm+ov	NA	Perm	pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	26.0	34.0	30.0	30.0	34.0	64.0
Total Split (%)	28.9%	37.8%	33.3%	33.3%	37.8%	71.1%
Maximum Green (s)	21.5	29.5	25.5	25.5	29.5	59.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	None	Min

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	12.0	30.3	14.9	14.9	33.2	33.2
Actuated g/C Ratio	0.22	0.55	0.27	0.27	0.61	0.61
v/c Ratio	0.50	0.30	0.50	0.40	0.63	0.38
Control Delay	25.9	5.0	19.8	5.3	10.4	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	5.0	19.8	5.3	10.4	6.1
LOS	C	A	B	A	B	A
Approach Delay	13.6		14.9			7.6
Approach LOS	B		B			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 54.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 55.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: S Meridian & 31st Ave SE



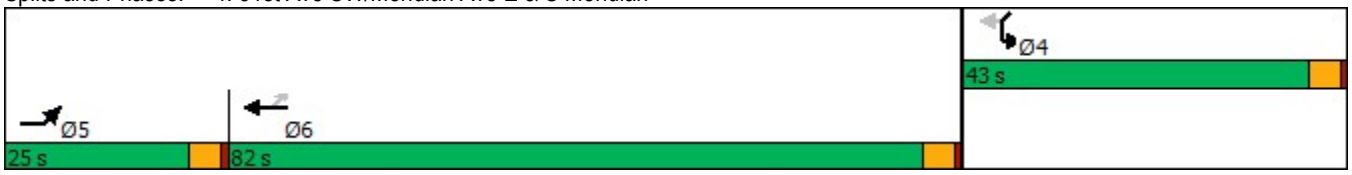


Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	297	0	1355	353	631	285
Future Volume (vph)	297	0	1355	353	631	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225			425	0	175
Storage Lanes	1			1	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	0	3471	1583	3467	1599
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	0	3471	1583	3467	1599
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				368		226
Link Speed (mph)		35	35		35	
Link Distance (ft)		513	573		319	
Travel Time (s)		10.0	11.2		6.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	4%	2%	1%	1%
Adj. Flow (vph)	309	0	1411	368	657	297
Shared Lane Traffic (%)						
Lane Group Flow (vph)	309	0	1411	368	657	297
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Turn Type	Prot		NA	Perm	Prot	Perm
Protected Phases	5		6		4	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	22.5	22.5
Total Split (s)	25.0		82.0	82.0	43.0	43.0
Total Split (%)	16.7%		54.7%	54.7%	28.7%	28.7%
Maximum Green (s)	20.5		77.5	77.5	38.5	38.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Walk Time (s)			7.0	7.0	7.0	7.0
Flash Dont Walk (s)			11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)			0	0	0	0
Act Effct Green (s)	16.7		63.3	63.3	30.0	30.0
Actuated g/C Ratio	0.13		0.51	0.51	0.24	0.24
v/c Ratio	0.67		0.80	0.37	0.78	0.53
Control Delay	61.9		29.8	2.9	53.1	15.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	61.9		29.8	2.9	53.1	15.6
LOS	E		C	A	D	B
Approach Delay		61.9	24.2		41.4	
Approach LOS		E	C		D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 124.2			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 33.5		Intersection LOS: C	
Intersection Capacity Utilization 74.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: 31st Ave SW/Meridian Ave E & S Meridian



Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	39	27	352	439	10
Future Vol, veh/h	10	39	27	352	439	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	4	1	1	1
Mvmt Flow	10	40	28	363	453	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	877	458	463	0	-	0
Stage 1	458	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.14	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.236	-	-	-
Pot Cap-1 Maneuver	320	605	1088	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	312	605	1088	-	-	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	666	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1088	-	561	-	-
HCM Lane V/C Ratio	0.026	-	0.09	-	-
HCM Control Delay (s)	8.4	-	12.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

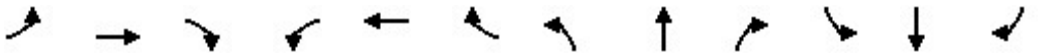
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	32	0	0	19	13	0	0	0	10	0	23
Future Vol, veh/h	30	32	0	0	19	13	0	0	0	10	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	33	35	0	0	21	14	0	0	0	11	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	35	0	0	35	0	0	142	136	35	129	129	28
Stage 1	-	-	-	-	-	-	101	101	-	28	28	-
Stage 2	-	-	-	-	-	-	41	35	-	101	101	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1576	-	-	1576	-	-	828	755	1038	844	762	1047
Stage 1	-	-	-	-	-	-	905	811	-	989	872	-
Stage 2	-	-	-	-	-	-	974	866	-	905	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1576	-	-	1576	-	-	796	739	1038	830	746	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	796	739	-	794	713	-
Stage 1	-	-	-	-	-	-	886	794	-	968	872	-
Stage 2	-	-	-	-	-	-	951	866	-	886	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.5	0	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1576	-	-	1576	-	-	955
HCM Lane V/C Ratio	-	0.021	-	-	-	-	-	0.038
HCM Control Delay (s)	0	7.3	-	-	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

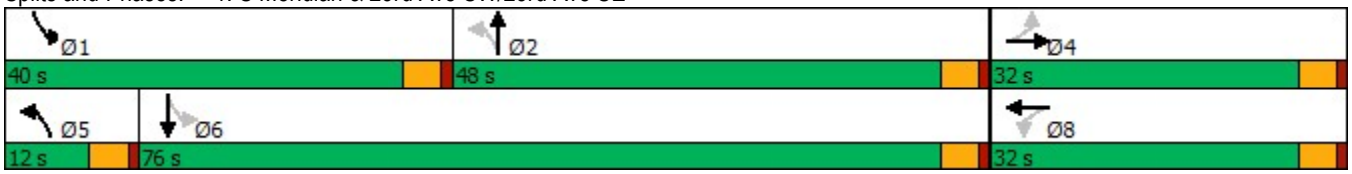


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	9	32	57	11	200	47	581	61	307	1073	42
Future Volume (vph)	17	9	32	57	11	200	47	581	61	307	1073	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	75		0	150		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.883			0.858			0.986			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1661	0	1703	1599	0	1787	3483	0	1770	3550	0
Flt Permitted	0.455			0.727			0.198			0.266		
Satd. Flow (perm)	856	1661	0	1303	1599	0	372	3483	0	495	3550	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			222			10			6	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		574			588			576			468	
Travel Time (s)		13.0			13.4			11.2			9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	6%	1%	2%	1%	2%	4%	2%	1%	3%
Adj. Flow (vph)	19	10	36	63	12	222	52	646	68	341	1192	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	46	0	63	234	0	52	714	0	341	1239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	32.0	32.0		32.0	32.0		12.0	48.0		40.0	76.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		10.0%	40.0%		33.3%	63.3%	
Maximum Green (s)	27.5	27.5		27.5	27.5		7.5	43.5		35.5	71.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	8.8	8.8		8.8	8.8		29.0	22.2		37.6	31.9	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.52	0.40		0.67	0.57	
v/c Ratio	0.14	0.16		0.31	0.53		0.14	0.52		0.59	0.61	
Control Delay	27.8	13.7		29.2	10.3		5.1	14.1		8.3	11.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.8	13.7		29.2	10.3		5.1	14.1		8.3	11.0	
LOS	C	B		C	B		A	B		A	B	
Approach Delay		17.8			14.3			13.5			10.4	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 56.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: S Meridian & 23rd Ave SW/23rd Ave SE



Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	1	14	28	0	38	13	698	52	51	1086	11
Future Vol, veh/h	9	1	14	28	0	38	13	698	52	51	1086	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	4	8	2	1	7	1	1
Mvmt Flow	9	1	15	29	0	40	14	735	55	54	1143	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1653	2075	578	1471	2054	395	1155	0	0	790	0	0
Stage 1	1257	1257	-	791	791	-	-	-	-	-	-	-
Stage 2	396	818	-	680	1263	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.98	4.26	-	-	4.24	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.34	2.28	-	-	2.27	-	-
Pot Cap-1 Maneuver	65	54	462	89	55	599	568	-	-	794	-	-
Stage 1	183	243	-	351	402	-	-	-	-	-	-	-
Stage 2	603	390	-	409	241	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	56	49	462	80	50	599	568	-	-	794	-	-
Mov Cap-2 Maneuver	138	143	-	195	146	-	-	-	-	-	-	-
Stage 1	178	226	-	342	392	-	-	-	-	-	-	-
Stage 2	549	380	-	367	225	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.2	17.9	0.2	0.4
HCM LOS	C	C		

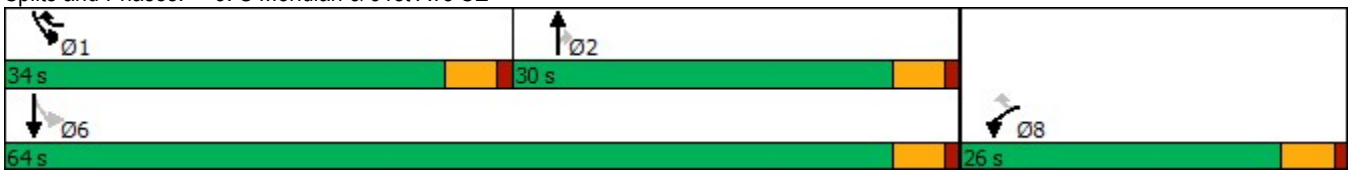
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	568	-	-	234	195	599	794	-	-
HCM Lane V/C Ratio	0.024	-	-	0.108	0.151	0.067	0.068	-	-
HCM Control Delay (s)	11.5	-	-	22.2	26.7	11.4	9.9	-	-
HCM Lane LOS	B	-	-	C	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.5	0.2	0.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	184	260	471	229	394	786
Future Volume (vph)	184	260	471	229	394	786
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		300	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1583	3539	1599	1787	3574
Flt Permitted	0.950				0.311	
Satd. Flow (perm)	1787	1583	3539	1599	585	3574
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		105		244		
Link Speed (mph)	30		35			35
Link Distance (ft)	398		356			430
Travel Time (s)	9.0		6.9			8.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	2%	2%	1%	1%	1%
Adj. Flow (vph)	196	277	501	244	419	836
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	277	501	244	419	836
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Turn Type	Prot	pm+ov	NA	Perm	pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	26.0	34.0	30.0	30.0	34.0	64.0
Total Split (%)	28.9%	37.8%	33.3%	33.3%	37.8%	71.1%
Maximum Green (s)	21.5	29.5	25.5	25.5	29.5	59.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	None	Min

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	12.0	30.5	15.3	15.3	33.8	33.8
Actuated g/C Ratio	0.22	0.55	0.28	0.28	0.61	0.61
v/c Ratio	0.51	0.30	0.51	0.40	0.64	0.38
Control Delay	26.3	5.4	20.0	5.3	10.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	5.4	20.0	5.3	10.7	6.2
LOS	C	A	C	A	B	A
Approach Delay	14.1		15.2			7.7
Approach LOS	B		B			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 55.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: S Meridian & 31st Ave SE



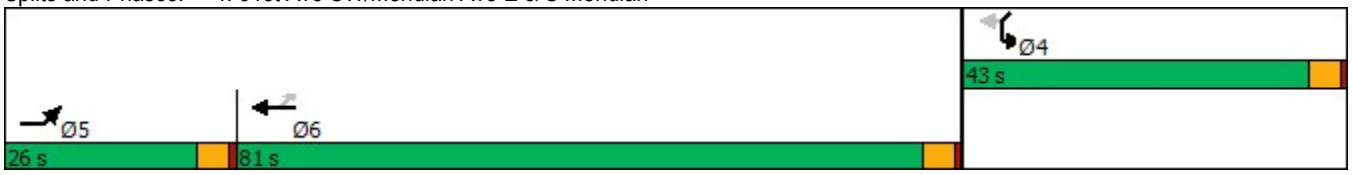
Bradley Heights-TIA
PO Box 397 Puyallup, WA 98371 (253) 770 1401 heathtraffic.com

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	309	0	1355	362	636	292
Future Volume (vph)	309	0	1355	362	636	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225			425	0	175
Storage Lanes	1			1	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	0	3471	1583	3467	1599
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	0	3471	1583	3467	1599
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				377		230
Link Speed (mph)		35	35		35	
Link Distance (ft)		513	573		319	
Travel Time (s)		10.0	11.2		6.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	4%	2%	1%	1%
Adj. Flow (vph)	322	0	1411	377	663	304
Shared Lane Traffic (%)						
Lane Group Flow (vph)	322	0	1411	377	663	304
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Turn Type	Prot		NA	Perm	Prot	Perm
Protected Phases	5		6		4	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	22.5	22.5
Total Split (s)	26.0		81.0	81.0	43.0	43.0
Total Split (%)	17.3%		54.0%	54.0%	28.7%	28.7%
Maximum Green (s)	21.5		76.5	76.5	38.5	38.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Walk Time (s)			7.0	7.0	7.0	7.0
Flash Dont Walk (s)			11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)			0	0	0	0
Act Effct Green (s)	17.3		63.5	63.5	30.4	30.4
Actuated g/C Ratio	0.14		0.51	0.51	0.24	0.24
v/c Ratio	0.68		0.80	0.38	0.79	0.54
Control Delay	61.9		30.6	2.9	53.6	15.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	61.9		30.6	2.9	53.6	15.8
LOS	E		C	A	D	B
Approach Delay		61.9	24.8		41.7	
Approach LOS		E	C		D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 125.3			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 34.0		Intersection LOS: C	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: 31st Ave SW/Meridian Ave E & S Meridian



Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	45	36	352	439	19
Future Vol, veh/h	15	45	36	352	439	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	4	1	1	1
Mvmt Flow	15	46	37	363	453	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	900	463	473	0	-	0
Stage 1	463	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.14	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.236	-	-	-
Pot Cap-1 Maneuver	310	601	1079	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	299	601	1079	-	-	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1079	-	545	-	-
HCM Lane V/C Ratio	0.034	-	0.113	-	-
HCM Control Delay (s)	8.5	-	12.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	32	42	18	19	13	25	0	11	10	0	23
Future Vol, veh/h	30	32	42	18	19	13	25	0	11	10	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	33	35	46	20	21	14	27	0	12	11	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	35	0	0	81	0	0	205	199	58	198	215	28
Stage 1	-	-	-	-	-	-	124	124	-	68	68	-
Stage 2	-	-	-	-	-	-	81	75	-	130	147	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1576	-	-	1517	-	-	753	697	1008	761	683	1047
Stage 1	-	-	-	-	-	-	880	793	-	942	838	-
Stage 2	-	-	-	-	-	-	927	833	-	874	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1576	-	-	1517	-	-	716	673	1008	733	660	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	716	673	-	726	651	-
Stage 1	-	-	-	-	-	-	862	776	-	922	827	-
Stage 2	-	-	-	-	-	-	893	822	-	846	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	2.7	9.8	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	786	1576	-	-	1517	-	-	923
HCM Lane V/C Ratio	0.05	0.021	-	-	0.013	-	-	0.039
HCM Control Delay (s)	9.8	7.3	-	-	7.4	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1